

**3R-1011**

**Release Report/ General  
Correspondence**

**Enterprise SJ**

**Date: Jan-Mar 2015**

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

State of New Mexico  
Energy Minerals and Natural  
Resources

JAN 02 2015

Form C-141  
Revised August 8, 2011

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

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

### Release Notification and Corrective Action

#### OPERATOR

Initial Report  Final Report

Name of Company: Enterprise Field Services LLC	Contact: Thomas Long
Address: 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name: <b>Trunk K #7 Release Site</b>	Facility Type: <b>Natural Gas Gathering Line</b>

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

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	26	27N	8W	1805	North Line	881	East Line	San Juan

Latitude 36.54687Longitude -107.646825

#### NATURE OF RELEASE

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release <b>225 MCF</b>	Volume Recovered: <b>None</b>
Source of Release: Internal Corrosion	Date and Hour of Occurrence: <b>10/28/2014 @ 3:30 p.m.</b>	Date and Hour of Discovery: <b>10/28/2014 @ 10:00 p.m.</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy Notification to NMOCD – Cory Smith and BLM – Shari Ketchum	
By Whom? Thomas Long	Date and Hour <b>10/29/2014 @ 10:13 a.m.</b>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action: On October 28, 2014, a third party reported a leak on the Trunk K pipeline right of way. Technicians were dispatched to the location and the leak was confirmed. The line was isolated and de-pressurized and lock out tag out was applied. Repairs and remediation were completed on November 6, 2014. The final excavation dimensions measured approximately forty-four (44) feet long by fifteen (15) feet wide ranging from seven (7) to fourteen (14) feet deep. Approximately 215 cubic yards of hydrocarbon impacted soil was excavated and transported to a NMOCD approved land farm facility.

Describe Area Affected and Cleanup Action: On October 28, 2014, a third party reported a leak on the Trunk K pipeline right of way. Technicians were dispatched to the location and the leak was confirmed. The line was isolated and de-pressurized and lock out tag out was applied. Repairs and remediation were completed on November 6, 2014. The final excavation dimensions measured approximately forty-four (44) feet long by fifteen (15) feet wide ranging from seven (7) to fourteen (14) feet deep. Approximately 215 cubic yards of hydrocarbon impacted soil was excavated and transported to a NMOCD approved land farm facility. A third party environmental contractor corrective action report is included with this "Final" C-141.

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

Signature: <i>Jon E Fields</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: <u>2/5/15</u>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <u>12-29-2014</u>	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

#NCS 1503648346

33



November 25, 2014

SMA #5122855

Mr. Tom Long  
Enterprise Products  
Field Environmental-San Juan Basin  
614 Reilly Avenue  
Farmington, NM 87401

**OIL CONS. DIV DIST. 3**

**JAN 02 2015**

**RE: LETTER REPORT SUMMARIZING REMEDIAL EXCAVATION ACTIVITIES AT THE TRUNK K #7 PIPELINE RELEASE SITE, SAN JUAN COUNTY, NEW MEXICO**

Dear Mr. Long:

Souder, Miller & Associates (SMA) is pleased to submit this letter report summarizing sampling activities at the Trunk K #7 pipeline release site. The site is located in Unit H (SE ¼, NE ¼) Section 26, T27N, R8W, San Juan County, New Mexico located on land managed by the Bureau of Land Management (BLM).

**1.0 SITE RANKING AND RELEASE HISTORY**

The Trunk K #7 release was discovered on October 30, 2014 and was a result of internal corrosion of the sixteen inch natural gas pipeline. The Trunk K #7 release was one of seven releases along 7,000 linear feet of the Trunk K Pipeline, which are all documented in the Trunk K Pipeline Releases Report submitted to Enterprise on November 19, 2014. This letter report supplements the primary Trunk K Pipeline Release Report. A site vicinity map, illustrating the location of the seven releases is enclosed as Figure 1.

The release site is located on land owned by the Bureau of Land Management (BLM). After evaluation using aerial photography and topographic maps, depth to groundwater is estimated to be approximately 24 feet below ground surface (bgs). The release is located approximately 160 feet west of Largo Canyon Wash. A site map is enclosed as Figure 2.

SMA searched the New Mexico State Engineer's Office water well data base for water wells in the vicinity of the release. No wells were located within 1,000 feet and one well is located within a 1 mile radius of the site. The physical location of this site is within the jurisdiction of New Mexico Conservation Division (NMOCD). The release location has been assigned a NMOCD ranking of 40, which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 100 ppm total petroleum hydrocarbons (TPH).

## 2.0 SUMMARY OF FIELD ACTIVITIES

SMA responded to the release on October 31, and November 4, 5, and 6, 2014 to conduct field screening using a properly calibrated photoionization detector (PID) and oversee excavation of contaminated soils conducted by Energy Maintenance Services (EMS). EMS repaired the pipeline using carbon fiber I-Wrap®. Field screening indicated that contaminated soils above applicable standards had been removed and that stockpiled soils from the central and eastern portions of the excavation were not suitable as backfill material.

The final excavation measured 44 feet long, 15 feet wide with depths ranging from 7 to 14 feet bgs. In total, approximately 215 cubic yards of contaminated soil was removed and replaced with clean backfill material. The contaminated soils were transported to Envirotech Landfarm, located near Bloomfield, NM. Soil disposal documentation is attached.

Closure sampling was scheduled with BLM and NMOCD on November 6, 2014 however, neither party was present to observe sampling event. Composite samples were collected from multiple sidewall sections and the base of the excavation. Samples were placed in laboratory provided glassware and submitted to Hall Environmental Analysis Laboratory in Albuquerque, NM for analysis via Method 8015 for gasoline and diesel range organics (GRO/DRO) and Method 8021 for benzene, toluene, ethylbenzene and xylene (BTEX). A contaminant concentration map is enclosed as Figure 3.

## 3.0 CONCLUSIONS AND RECOMMENDATIONS

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 40: 10 ppm benzene, 50 ppm total BTEX, and 100 ppm TPH. Laboratory results indicate that all samples were below NMOCD standards, and below laboratory detection limits, for all constituents of concern.

SMA recommends no additional action at the Trunk K #7 pipeline release site.

If there are any questions regarding this report, please contact myself or Mr. Reid Allan at 505-325-7535.

Sincerely,  
Souder, Miller & Associates



Steve Moskal  
Project Scientist



Reid S. Allan, P.G.  
Principal Scientist

**Attached:**

**Figure 1: Trunk K #1-#7 Release Site**

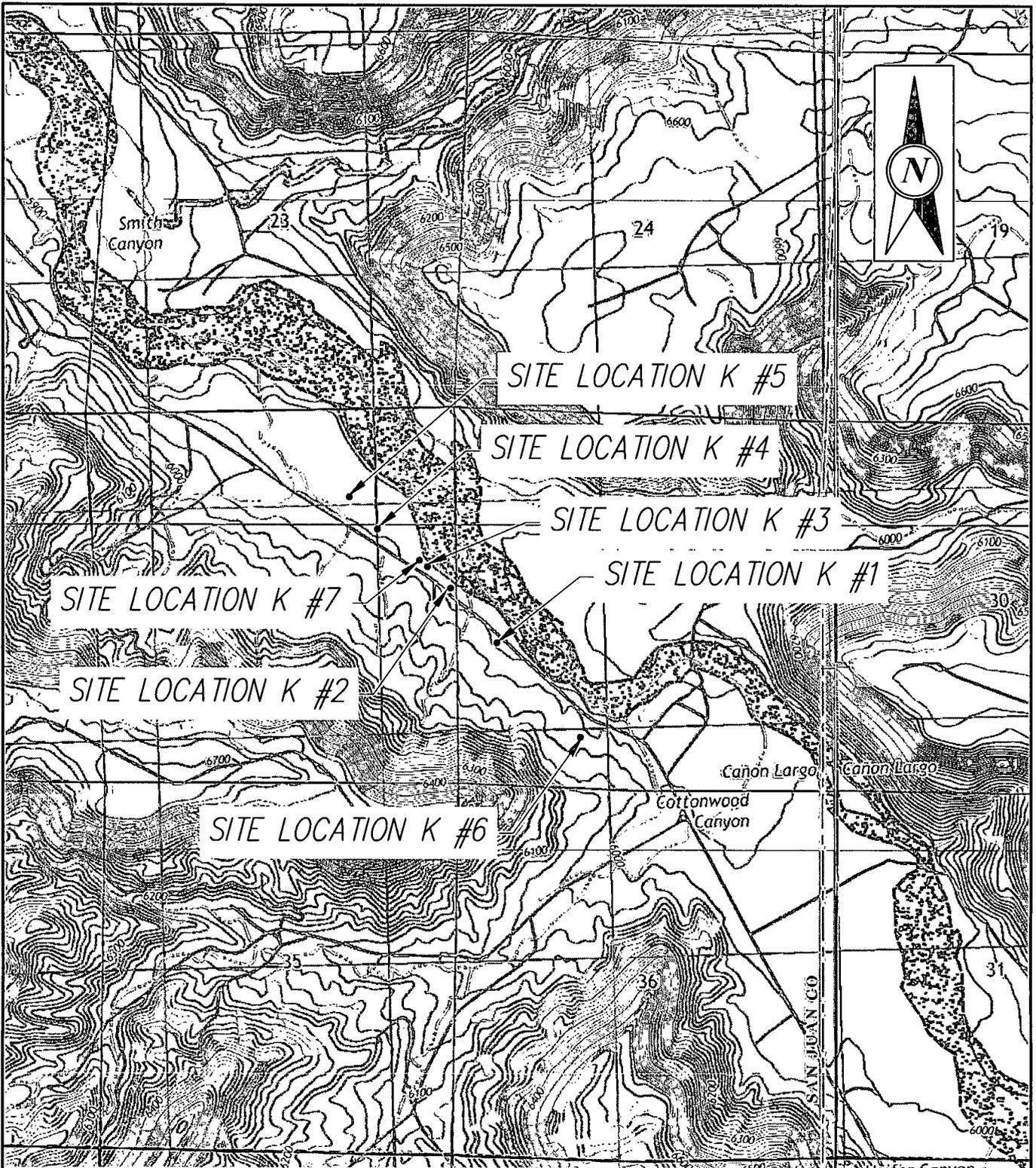
**Figure 2: Site Map**

**Figure 3: Contaminant Concentration Map**

**Appendix A: Soil Disposal Documentation: Completed C-138**

**Appendix B: Laboratory Report**

## FIGURES



SITE LOCATION K #5

SITE LOCATION K #4

SITE LOCATION K #3

SITE LOCATION K #1

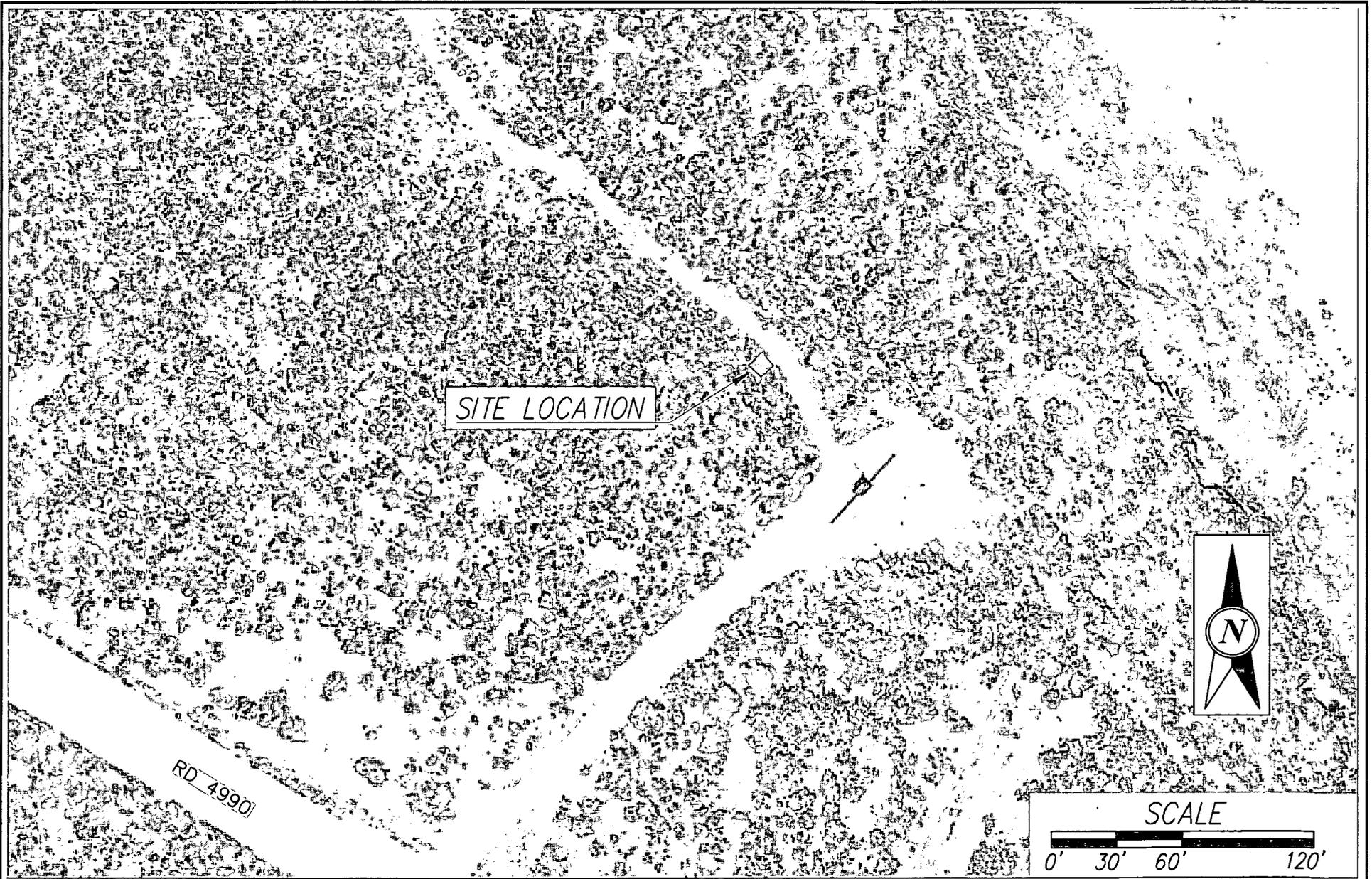
SITE LOCATION K #7

SITE LOCATION K #2

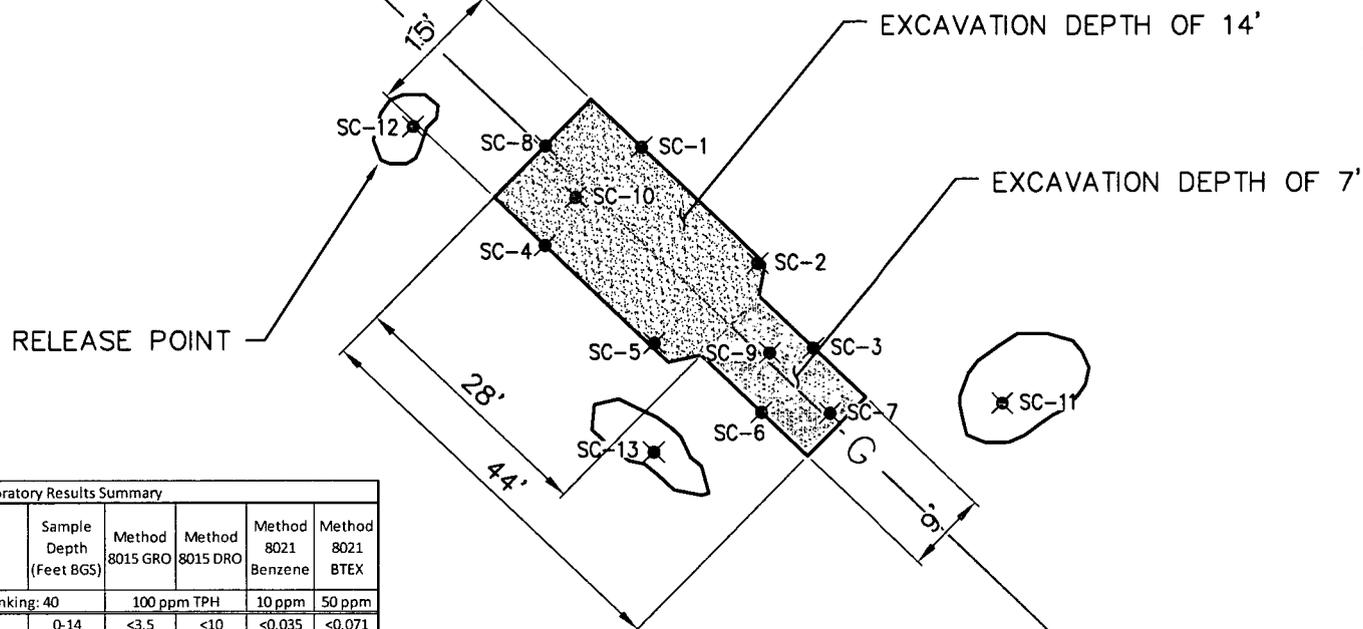
SITE LOCATION K #6



 <p><b>ASMA</b> Engineering Environmental Surveying</p>	<p><b>SOUDER, MILLER &amp; ASSOCIATES</b> 401 West Broadway Avenue Farmington, NM 87401-5907 Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 326-0045 www.soudermiller.com Serving the Southwest &amp; Rocky Mountains Albuquerque, Carlsbad, Farmington, Las Cruces, Roswell, Santa Fe, NM • El Paso, TX Cortez • Grand Junction • Montrose, CO • Safford, AZ • Moab, UT</p>	<p>ENTERPRISE</p>	<p>FARMINGTON, NEW MEXICO</p>	<table border="1"> <tr> <td>Designed SM</td> <td>Drawn DJB</td> <td>Checked RSA</td> </tr> </table>	Designed SM	Drawn DJB	Checked RSA			
		Designed SM	Drawn DJB	Checked RSA						
<p>VICINITY MAP TRUNK K #1 THROUGH K #7 SECTIONS 25 AND 26, T27N, R8W SAN JUAN COUNTY, NEW MEXICO</p>		<table border="1"> <tr> <td>Date:</td> <td>11/24/2014</td> </tr> <tr> <td>Scale:</td> <td>Horiz: 1"=2000' Vert: N/A</td> </tr> <tr> <td>Project No:</td> <td>5122855</td> </tr> <tr> <td>Sheet:</td> <td>1</td> </tr> </table>	Date:	11/24/2014	Scale:	Horiz: 1"=2000' Vert: N/A	Project No:	5122855	Sheet:	1
Date:	11/24/2014									
Scale:	Horiz: 1"=2000' Vert: N/A									
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 <b>SMA</b> <i>Engineering Environmental Surveying</i>	<b>SOUDER, MILLER &amp; ASSOCIATES</b> 401 West Broadway Avenue Farmington, NM 87401-5907 Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 326-0045 www.soudermiller.com Serving the Southwest & Rocky Mountains Albuquerque, Farmington, Las Cruces, Roswell, Santa Fe, NM - El Paso, TX Cortez - Grand Junction - Montrose, CO - Safford, AZ - Moab, UT	ENTERPRISE  SAN JUAN COUNTY, NEW MEXICO	FARMINGTON, NEW MEXICO  <b>SITE LOCATION MAP</b> <b>TRUNK K #7</b> <b>SECTION 26, T27N, R8W</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Designed SM</td> <td>Drawn DJB</td> <td>Checked RSA</td> </tr> <tr> <td colspan="3">Date: 11/21/14</td> </tr> <tr> <td colspan="3">Scale: Horiz: 1"=60' Vert: N/A</td> </tr> <tr> <td colspan="3">Project No: 5122855</td> </tr> <tr> <td colspan="3">Figure: 2</td> </tr> </table>	Designed SM	Drawn DJB	Checked RSA	Date: 11/21/14			Scale: Horiz: 1"=60' Vert: N/A			Project No: 5122855			Figure: 2		
	Designed SM	Drawn DJB	Checked RSA																
Date: 11/21/14																			
Scale: Horiz: 1"=60' Vert: N/A																			
Project No: 5122855																			
Figure: 2																			
© Copyright 2014 Souder, Miller & Associates - All Rights Reserved <span style="float: right;">P:\5-Enterprise\MSA (2014) 5122855\SPILL RESPONSE\BG45 - Trunk Kit\Trunk K-7\CAD\dwg\Trunk K-7 LOCATION MAP.dwg, ADP, 11/21/2014 3:26 PM</span>																			



Trunk K #7 Laboratory Results Summary							
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines			NMOCD Site Ranking: 40	100 ppm TPH		10 ppm	50 ppm
11/6/2014	10:01	SC-1 NW Wall	0-14	<3.5	<10	<0.035	<0.071
11/6/2014	10:03	SC-2 NC Wall	0-14	<3.6	<9.8	<0.036	<0.073
11/6/2014	10:05	SC-3 NE Wall	0-7	<3.2	<9.9	<0.032	<0.064
11/6/2014	10:09	SC-4 SW Wall	0-14	<3.4	<9.9	<0.034	<0.069
11/6/2014	10:11	SC-5 SC Wall	0-14	<3.5	<10	<0.035	<0.069
11/6/2014	10:15	SC-6 SE Wall	0-7	<3.4	<9.9	<0.034	<0.068
11/6/2014	10:18	SC-7 E Wall	0-7	<3.4	<10	<0.034	<0.068
11/6/2014	10:21	SC-8 W Wall	0-14	<3.5	<10	<0.035	<0.070
11/6/2014	10:23	SC-9 E Base	7	<3.4	<10	<0.034	<0.067
11/6/2014	10:26	SC-10 W Base	14	<3.4	<9.9	<0.034	<0.068
11/6/2014	10:29	SC-11 SP-1	-	<3.9	<10	<0.039	<0.078
11/6/2014	10:31	SC-12 SP-2	-	<3.9	<10	<0.039	<0.078
11/6/2014	10:35	SC-13 SP-3	-	<3.9	<9.9	<0.039	<0.077

LEGEND  
 ✕ SOIL SAMPLE LOCATION  
 RESULTS IN mg/kg REPORTED 11-10-14



**SOUDER, MILLER & ASSOCIATES**  
 401 West Broadway Avenue  
 Farmington, NM 87401-5907  
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 Center - Grand Junction - Montrose, CO - Safford, AZ - Moab, UT

ENTERPRISE

FARMINGTON, NEW MEXICO

**SOIL CONTAMINANT CONCENTRATION MAP**  
**TRUNK K #7**  
**SECTION 26, T27N, R8W**

SAN JUAN COUNTY, NEW MEXICO

Designed SM	Drawn DJB	Checked RSA
Date: 11/21/2014		
Scale: Horiz: 1"=10' Vert: N/A		
Project No: 5122855		
Figure: 3		

**APPENDIX A**  
**SOIL DISPOSAL DOCUMENTATION**

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

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

Form C-138  
Revised 08/01/11  
97057-0652  
\*Surface Waste Management Facility Operator  
and Generator shall maintain and make this  
documentation available for Division inspection.

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:  
Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401 Nov. 2014

2. Originating Site: Trunk K Pipeline #7 Release Site

3. Location of Material (Street Address, City, State or ULSTR):  
Unit Letter G Section 26 Township 27 North Range 8 West, 36.54687, -107.646825, San Juan County

4. Source and Description of Waste:  
Source: Natural Gas Pipeline Release  
Description: Exempt petroleum affected soil from clean-up efforts at pipeline release.  
Estimated Volume 100 yd<sup>3</sup> bbls Known Volume (to be entered by the operator at the end of the haul) 215 yd<sup>3</sup> bbls

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

I, Thomas Long, representative or authorized agent for Enterprise Field Services, LLC do hereby  
**Generator Signature**  
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)  
 RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. **Operator Use Only: Waste Acceptance Frequency**  Monthly  Weekly  Per Load  
 RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)  
 MSDS Information  RCRA Hazardous Waste Analysis  Process Knowledge  Other (Provide description in Box 4)

#### GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete  
**Generator Signature**  
the required testing/sign the Generator Waste Testing Certification.  
I, Kendra Runnung, representative for Envirotech, Inc do hereby certify that  
**Representative/Agent Signature**  
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: AMS, B+B, Esparea, Envirotech, 3-D services

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: Kendra Runnung  
SIGNATURE: Kendra Runnung  
Surface Waste Management Facility Authorized Agent

TITLE: Waste Coordinator DATE: 11/5/14  
TELEPHONE NO.: 505-632-0615

**APPENDIX B**  
**LABORATORY REPORT**



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

November 10, 2014

Shawna Chubbuck  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX (505) 327-1496

RE: Trunk K #7

OrderNo.: 1411263

Dear Shawna Chubbuck:

Hall Environmental Analysis Laboratory received 13 sample(s) on 11/7/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**

Lab Order 1411263

Date Reported: 11/10/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-1 NW Wall

**Project:** Trunk K #7

**Collection Date:** 11/6/2014 10:01:00 AM

**Lab ID:** 1411263-001

**Matrix:** MEOH (SOIL)

**Received Date:** 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2014 10:25:50 AM	16286
Surr: DNOP	115	63.5-128		%REC	1	11/7/2014 10:25:50 AM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	11/7/2014 10:42:21 AM	R22407
Surr: BFB	90.6	80-120		%REC	1	11/7/2014 10:42:21 AM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.035		mg/Kg	1	11/7/2014 10:42:21 AM	R22407
Toluene	ND	0.035		mg/Kg	1	11/7/2014 10:42:21 AM	R22407
Ethylbenzene	ND	0.035		mg/Kg	1	11/7/2014 10:42:21 AM	R22407
Xylenes, Total	ND	0.071		mg/Kg	1	11/7/2014 10:42:21 AM	R22407
Surr: 4-Bromofluorobenzene	95.5	80-120		%REC	1	11/7/2014 10:42:21 AM	R22407

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 1 of 18
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-2 NC Wall

Project: Trunk K #7

Collection Date: 11/6/2014 10:03:00 AM

Lab ID: 1411263-002

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/7/2014 10:55:45 AM	16286
Surr: DNOP	119	63.5-128		%REC	1	11/7/2014 10:55:45 AM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	11/7/2014 11:10:59 AM	R22407
Surr: BFB	91.1	80-120		%REC	1	11/7/2014 11:10:59 AM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.036		mg/Kg	1	11/7/2014 11:10:59 AM	R22407
Toluene	ND	0.036		mg/Kg	1	11/7/2014 11:10:59 AM	R22407
Ethylbenzene	ND	0.036		mg/Kg	1	11/7/2014 11:10:59 AM	R22407
Xylenes, Total	ND	0.073		mg/Kg	1	11/7/2014 11:10:59 AM	R22407
Surr: 4-Bromofluorobenzene	95.9	80-120		%REC	1	11/7/2014 11:10:59 AM	R22407

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	Page 2 of 18
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Analytical Report

Lab Order 1411263

Date Reported: 11/10/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-3 NE Wall

Project: Trunk K #7

Collection Date: 11/6/2014 10:05:00 AM

Lab ID: 1411263-003

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/7/2014 1:16:34 PM	16286
Surr: DNOP	128	63.5-128	S	%REC	1	11/7/2014 1:16:34 PM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	11/7/2014 11:39:33 AM	R22407
Surr: BFB	91.4	80-120		%REC	1	11/7/2014 11:39:33 AM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	11/7/2014 11:39:33 AM	R22407
Toluene	ND	0.032		mg/Kg	1	11/7/2014 11:39:33 AM	R22407
Ethylbenzene	ND	0.032		mg/Kg	1	11/7/2014 11:39:33 AM	R22407
Xylenes, Total	ND	0.064		mg/Kg	1	11/7/2014 11:39:33 AM	R22407
Surr: 4-Bromofluorobenzene	95.4	80-120		%REC	1	11/7/2014 11:39:33 AM	R22407

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 3 of 18
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Analytical Report

Lab Order 1411263

Date Reported: 11/10/2014

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-4 SW Wall

Project: Trunk K #7

Collection Date: 11/6/2014 10:09:00 AM

Lab ID: 1411263-004

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/7/2014 1:46:57 PM	16286
Surr: DNOP	119	63.5-128		%REC	1	11/7/2014 1:46:57 PM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	11/7/2014 12:08:13 PM	R22407
Surr: BFB	95.5	80-120		%REC	1	11/7/2014 12:08:13 PM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	11/7/2014 12:08:13 PM	R22407
Toluene	ND	0.034		mg/Kg	1	11/7/2014 12:08:13 PM	R22407
Ethylbenzene	ND	0.034		mg/Kg	1	11/7/2014 12:08:13 PM	R22407
Xylenes, Total	ND	0.069		mg/Kg	1	11/7/2014 12:08:13 PM	R22407
Surr: 4-Bromofluorobenzene	97.5	80-120		%REC	1	11/7/2014 12:08:13 PM	R22407

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Analytical Report

Lab Order 1411263

Date Reported: 11/10/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-5 SC Wall

Project: Trunk K #7

Collection Date: 11/6/2014 10:11:00 AM

Lab ID: 1411263-005

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2014 1:21:05 PM	16286
Surr: DNOP	92.0	63.5-128		%REC	1	11/7/2014 1:21:05 PM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	11/7/2014 12:36:57 PM	R22407
Surr: BFB	91.0	80-120		%REC	1	11/7/2014 12:36:57 PM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.035		mg/Kg	1	11/7/2014 12:36:57 PM	R22407
Toluene	ND	0.035		mg/Kg	1	11/7/2014 12:36:57 PM	R22407
Ethylbenzene	ND	0.035		mg/Kg	1	11/7/2014 12:36:57 PM	R22407
Xylenes, Total	ND	0.069		mg/Kg	1	11/7/2014 12:36:57 PM	R22407
Surr: 4-Bromofluorobenzene	93.4	80-120		%REC	1	11/7/2014 12:36:57 PM	R22407

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

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

**Analytical Report**

Lab Order 1411263

Date Reported: 11/10/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-6 SE Wall

**Project:** Trunk K #7

**Collection Date:** 11/6/2014 10:15:00 AM

**Lab ID:** 1411263-006

**Matrix:** MEOH (SOIL)

**Received Date:** 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/7/2014 3:31:02 PM	16286
Surr: DNOP	88.3	63.5-128		%REC	1	11/7/2014 3:31:02 PM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	11/7/2014 1:05:36 PM	R22407
Surr: BFB	91.0	80-120		%REC	1	11/7/2014 1:05:36 PM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	11/7/2014 1:05:36 PM	R22407
Toluene	ND	0.034		mg/Kg	1	11/7/2014 1:05:36 PM	R22407
Ethylbenzene	ND	0.034		mg/Kg	1	11/7/2014 1:05:36 PM	R22407
Xylenes, Total	ND	0.068		mg/Kg	1	11/7/2014 1:05:36 PM	R22407
Surr: 4-Bromofluorobenzene	94.2	80-120		%REC	1	11/7/2014 1:05:36 PM	R22407

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 6 of 18
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-7 E Wall

Project: Trunk K #7

Collection Date: 11/6/2014 10:18:00 AM

Lab ID: 1411263-007

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2014 2:04:32 PM	16286
Surr: DNOP	101	63.5-128		%REC	1	11/7/2014 2:04:32 PM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	11/7/2014 1:34:16 PM	R22407
Surr: BFB	91.4	80-120		%REC	1	11/7/2014 1:34:16 PM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	11/7/2014 1:34:16 PM	R22407
Toluene	ND	0.034		mg/Kg	1	11/7/2014 1:34:16 PM	R22407
Ethylbenzene	ND	0.034		mg/Kg	1	11/7/2014 1:34:16 PM	R22407
Xylenes, Total	ND	0.068		mg/Kg	1	11/7/2014 1:34:16 PM	R22407
Surr: 4-Bromofluorobenzene	93.6	80-120		%REC	1	11/7/2014 1:34:16 PM	R22407

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-8 W Wall

Project: Trunk K #7

Collection Date: 11/6/2014 10:21:00 AM

Lab ID: 1411263-008

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2014 10:49:22 AM	16286
Surr: DNOP	130	63.5-128	S	%REC	1	11/7/2014 10:49:22 AM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	11/7/2014 2:02:59 PM	R22407
Surr: BFB	90.9	80-120		%REC	1	11/7/2014 2:02:59 PM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.035		mg/Kg	1	11/7/2014 2:02:59 PM	R22407
Toluene	ND	0.035		mg/Kg	1	11/7/2014 2:02:59 PM	R22407
Ethylbenzene	ND	0.035		mg/Kg	1	11/7/2014 2:02:59 PM	R22407
Xylenes, Total	ND	0.070		mg/Kg	1	11/7/2014 2:02:59 PM	R22407
Surr: 4-Bromofluorobenzene	96.3	80-120		%REC	1	11/7/2014 2:02:59 PM	R22407

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

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Analytical Report

Lab Order 1411263

Date Reported: 11/10/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-9 E Base

**Project:** Trunk K #7

**Collection Date:** 11/6/2014 10:23:00 AM

**Lab ID:** 1411263-009

**Matrix:** MEOH (SOIL)

**Received Date:** 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2014 11:10:49 AM	16286
Surr: DNOP	123	63.5-128		%REC	1	11/7/2014 11:10:49 AM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	11/7/2014 2:31:35 PM	R22407
Surr: BFB	92.2	80-120		%REC	1	11/7/2014 2:31:35 PM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	11/7/2014 2:31:35 PM	R22407
Toluene	ND	0.034		mg/Kg	1	11/7/2014 2:31:35 PM	R22407
Ethylbenzene	ND	0.034		mg/Kg	1	11/7/2014 2:31:35 PM	R22407
Xylenes, Total	ND	0.067		mg/Kg	1	11/7/2014 2:31:35 PM	R22407
Surr: 4-Bromofluorobenzene	95.2	80-120		%REC	1	11/7/2014 2:31:35 PM	R22407

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 9 of 18
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-10 W Base

Project: Trunk K #7

Collection Date: 11/6/2014 10:26:00 AM

Lab ID: 1411263-010

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/7/2014 11:33:07 AM	16286
Surr: DNOP	98.7	63.5-128		%REC	1	11/7/2014 11:33:07 AM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	11/7/2014 3:00:16 PM	R22407
Surr: BFB	92.0	80-120		%REC	1	11/7/2014 3:00:16 PM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	11/7/2014 3:00:16 PM	R22407
Toluene	ND	0.034		mg/Kg	1	11/7/2014 3:00:16 PM	R22407
Ethylbenzene	ND	0.034		mg/Kg	1	11/7/2014 3:00:16 PM	R22407
Xylenes, Total	ND	0.068		mg/Kg	1	11/7/2014 3:00:16 PM	R22407
Surr: 4-Bromofluorobenzene	94.7	80-120		%REC	1	11/7/2014 3:00:16 PM	R22407

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 10 of 18
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-11 SP-1

Project: Trunk K #7

Collection Date: 11/6/2014 10:29:00 AM

Lab ID: 1411263-011

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2014 11:54:42 AM	16286
Surr: DNOP	90.4	63.5-128		%REC	1	11/7/2014 11:54:42 AM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	11/7/2014 10:40:10 AM	R22405
Surr: BFB	99.1	80-120		%REC	1	11/7/2014 10:40:10 AM	R22405
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.039		mg/Kg	1	11/7/2014 10:40:10 AM	R22405
Toluene	ND	0.039		mg/Kg	1	11/7/2014 10:40:10 AM	R22405
Ethylbenzene	ND	0.039		mg/Kg	1	11/7/2014 10:40:10 AM	R22405
Xylenes, Total	ND	0.078		mg/Kg	1	11/7/2014 10:40:10 AM	R22405
Surr: 4-Bromofluorobenzene	127	80-120	S	%REC	1	11/7/2014 10:40:10 AM	R22405

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 11 of 18
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller and Associates**Client Sample ID:** SC-12 SP-2**Project:** Trunk K #7**Collection Date:** 11/6/2014 10:31:00 AM**Lab ID:** 1411263-012**Matrix:** MEOH (SOIL)**Received Date:** 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2014 12:16:08 PM	16286
Surr: DNOP	83.9	63.5-128		%REC	1	11/7/2014 12:16:08 PM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	11/7/2014 11:07:36 AM	R22405
Surr: BFB	97.6	80-120		%REC	1	11/7/2014 11:07:36 AM	R22405
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.039		mg/Kg	1	11/7/2014 11:07:36 AM	R22405
Toluene	ND	0.039		mg/Kg	1	11/7/2014 11:07:36 AM	R22405
Ethylbenzene	ND	0.039		mg/Kg	1	11/7/2014 11:07:36 AM	R22405
Xylenes, Total	ND	0.078		mg/Kg	1	11/7/2014 11:07:36 AM	R22405
Surr: 4-Bromofluorobenzene	124	80-120	S	%REC	1	11/7/2014 11:07:36 AM	R22405

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 12 of 18
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Analytical Report

Lab Order 1411263

Date Reported: 11/10/2014

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-13 SP-3

Project: Trunk K #7

Collection Date: 11/6/2014 10:35:00 AM

Lab ID: 1411263-013

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/7/2014 12:37:47 PM	16286
Surr: DNOP	88.1	63.5-128		%REC	1	11/7/2014 12:37:47 PM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	11/7/2014 11:35:02 AM	R22405
Surr: BFB	98.3	80-120		%REC	1	11/7/2014 11:35:02 AM	R22405
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.039		mg/Kg	1	11/7/2014 11:35:02 AM	R22405
Toluene	ND	0.039		mg/Kg	1	11/7/2014 11:35:02 AM	R22405
Ethylbenzene	ND	0.039		mg/Kg	1	11/7/2014 11:35:02 AM	R22405
Xylenes, Total	ND	0.077		mg/Kg	1	11/7/2014 11:35:02 AM	R22405
Surr: 4-Bromofluorobenzene	122	80-120	S	%REC	1	11/7/2014 11:35:02 AM	R22405

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 13 of 18
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1411263

10-Nov-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #7

Sample ID	<b>MB-16286</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>16286</b>	RunNo:	<b>22398</b>					
Prep Date:	<b>11/7/2014</b>	Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660175</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	10		10.00		104	63.5	128			

Sample ID	<b>LCS-16286</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>16286</b>	RunNo:	<b>22398</b>					
Prep Date:	<b>11/7/2014</b>	Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660176</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.5	68.6	130			
Surr: DNOP	4.6		5.000		92.5	63.5	128			

Sample ID	<b>1411263-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-1 NW Wall</b>	Batch ID:	<b>16286</b>	RunNo:	<b>22401</b>					
Prep Date:	<b>11/7/2014</b>	Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660245</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.8	49.21	0	96.2	29.2	176			
Surr: DNOP	4.3		4.921		87.5	63.5	128			

Sample ID	<b>1411263-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-1 NW Wall</b>	Batch ID:	<b>16286</b>	RunNo:	<b>22401</b>					
Prep Date:	<b>11/7/2014</b>	Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>661003</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.8	49.07	0	97.0	29.2	176	0.519	23	
Surr: DNOP	4.3		4.907		87.6	63.5	128	0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411263

10-Nov-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #7

Sample ID <b>MB-16279 MK</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>R22407</b>		RunNo: <b>22407</b>							
Prep Date:	Analysis Date: <b>11/7/2014</b>		SeqNo: <b>660420</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		90.3	80	120			

Sample ID <b>LCS-16279 MK</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>R22407</b>		RunNo: <b>22407</b>							
Prep Date:	Analysis Date: <b>11/7/2014</b>		SeqNo: <b>660421</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	65.8	139			
Surr: BFB	980		1000		98.1	80	120			

Sample ID <b>5ML RB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>R22405</b>		RunNo: <b>22405</b>							
Prep Date:	Analysis Date: <b>11/7/2014</b>		SeqNo: <b>660539</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		88.4	80	120			

Sample ID <b>2.5UG GRO LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>R22405</b>		RunNo: <b>22405</b>							
Prep Date:	Analysis Date: <b>11/7/2014</b>		SeqNo: <b>660540</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.3	65.8	139			
Surr: BFB	920		1000		92.1	80	120			

Sample ID <b>1411263-011AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>SC-11 SP-1</b>	Batch ID: <b>R22405</b>		RunNo: <b>22405</b>							
Prep Date:	Analysis Date: <b>11/7/2014</b>		SeqNo: <b>660541</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	18	3.9	19.53	0	89.6	71.8	132			
Surr: BFB	800		781.3		102	80	120			

Sample ID <b>1411263-011AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>SC-11 SP-1</b>	Batch ID: <b>R22405</b>		RunNo: <b>22405</b>							
Prep Date:	Analysis Date: <b>11/7/2014</b>		SeqNo: <b>660542</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
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- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411263

10-Nov-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #7

Sample ID	1411263-011AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-11 SP-1	Batch ID:	R22405	RunNo:	22405					
Prep Date:		Analysis Date:	11/7/2014	SeqNo:	660542	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	17	3.9	19.53	0	89.4	71.8	132	0.268	20	
Surr: BFB	820		781.3		105	80	120	0	0	

**Qualifiers:**

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

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1411263  
10-Nov-14

**Client:** Souder, Miller and Associates  
**Project:** Trunk K #7

Sample ID	<b>MB-16279 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R22407</b>	RunNo:	<b>22407</b>					
Prep Date:		Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660504</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.94		1.000		94.5	80	120			

Sample ID	<b>LCS-16279 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R22407</b>	RunNo:	<b>22407</b>					
Prep Date:		Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660505</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.050	1.000	0	95.4	80	120			
Toluene	0.96	0.050	1.000	0	96.3	80	120			
Ethylbenzene	0.98	0.050	1.000	0	98.3	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.9	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.5	80	120			

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R22405</b>	RunNo:	<b>22405</b>					
Prep Date:		Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660558</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID	<b>100NG BTEX LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R22405</b>	RunNo:	<b>22405</b>					
Prep Date:		Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660559</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	112	80	120			
Toluene	1.2	0.050	1.000	0	115	80	120			
Ethylbenzene	1.2	0.050	1.000	0	116	80	120			
Xylenes, Total	3.5	0.10	3.000	0	117	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

**Qualifiers:**

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- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
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- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411263

10-Nov-14

Client: Souder, Miller and Associates

Project: Trunk K #7

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID	1411263-012AMS	SampType: MS	TestCode: EPA Method 8021B: Volatiles							
Client ID:	SC-12 SP-2	Batch ID: R22405	RunNo: 22405							
Prep Date:	Analysis Date: 11/7/2014	SeqNo: 660560	Units: mg/Kg							
Benzene	0.82	0.039	0.7752	0	106	77.4	142			
Toluene	0.87	0.039	0.7752	0.007287	111	77	132			
Ethylbenzene	0.93	0.039	0.7752	0	120	77.6	134			
Xylenes, Total	2.8	0.078	2.326	0.01698	121	77.4	132			
Surr: 4-Bromofluorobenzene	1.0		0.7752		129	80	120			S

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID	1411263-012AMSD	SampType: MSD	TestCode: EPA Method 8021B: Volatiles							
Client ID:	SC-12 SP-2	Batch ID: R22405	RunNo: 22405							
Prep Date:	Analysis Date: 11/7/2014	SeqNo: 660561	Units: mg/Kg							
Benzene	0.81	0.039	0.7752	0	104	77.4	142	2.04	20	
Toluene	0.84	0.039	0.7752	0.007287	108	77	132	2.93	20	
Ethylbenzene	0.91	0.039	0.7752	0	118	77.6	134	1.45	20	
Xylenes, Total	2.8	0.078	2.326	0.01698	120	77.4	132	1.18	20	
Surr: 4-Bromofluorobenzene	1.0		0.7752		130	80	120	0	0	S

## Qualifiers:

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

# Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1411263

RcptNo: 1

Received by/date:		11/07/14
Logged By:	Lindsay Mangin	11/7/2014 7:00:00 AM
Completed By:	Lindsay Mangin	11/7/2014 7:27:47 AM
Reviewed By:		11/7/14

### Chain of Custody

- Custody seals intact on sample bottles? Yes  No  Not Present
- Is Chain of Custody complete? Yes  No  Not Present
- How was the sample delivered? Courier

### Log In

- Was an attempt made to cool the samples? Yes  No  NA
- Were all samples received at a temperature of >0° C to 6.0° C Yes  No  NA
- Sample(s) in proper container(s)? Yes  No
- Sufficient sample volume for indicated test(s)? Yes  No
- Are samples (except VOA and ONG) properly preserved? Yes  No
- Was preservative added to bottles? Yes  No  NA
- VOA vials have zero headspace? Yes  No  No VOA Vials
- Were any sample containers received broken? Yes  No
- Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes  No
- Are matrices correctly identified on Chain of Custody? Yes  No
- Is it clear what analyses were requested? Yes  No
- Were all holding times able to be met? (If no, notify customer for authorization.) Yes  No

# of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

### Special Handling (if applicable)

- 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	1.3	Good	Yes			

# Chain-of-Custody Record

Client: **SMA**

Mailing Address: **401 W Broadway  
Farmington, NM, 87401**

Phone #: **505 325 7535**

Email or Fax#: **Steve.Moskal@soudonill.com**

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

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

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

Turn-Around Time:  
 Standard  Rush **Same Day**

Project Name:  
**Trunk K # 7**

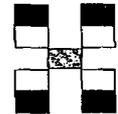
Project #:  
**5122855 36**

Project Manager:  
**Steve Moskal**

Sampler: **J. Sprague**

On Ice:  Yes  No

Sample Temperature: **13**



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No	BTEX	MTBE + TPH	TPH 8015B	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
6/14	1001	Soil	SC-1 NW wall	1 4oz kil	Meth	-001	X	X	X									
	1003		SC-2 NC wall			-002	X	X	X									
	1005		SC-3 NE wall			-003	X	X	X									
	1009		SC-4 SW wall			-004	X	X	X									
	1011		SC-5 SC wall			-005	X	X	X									
	1015		SC-6 SE wall			-006	X	X	X									
	1018		SC-7 E wall			-007	X	X	X									
	1021		SC-8 W wall			-008	X	X	X									
	1023		SC-9 E base			-009	X	X	X									
	1026		SC-10 W base			-010	X	X	X									
	1029		SC-11 SP-1			-011	X	X	X									
	1031		SC-12 SP-2			-012	X	X	X									

Date: 6/14 Time: 1515 Relinquished by: **J. Sprague**

Received by: **Christi Woods** Date: 6/14 Time: 1515

Remarks: **Invoice Enterprise**

Date: 6/14 Time: 1700 Relinquished by: **Christi Woods**

Received by: **[Signature]** Date: 11/07/14 Time: 0700

Please copy **Jesse Sprague @ soudonill.com**  
**Alicia Patterson @ soudonill.com**

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



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

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

DEC 29 2014

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: Ludwick LS#18 Release Site	Facility Type: Natural Gas Gathering Line
Surface Owner: BLM	Mineral Owner: BLM
API No.	

**LOCATION OF RELEASE**

Unit Letter <b>E</b>	Section <b>5</b>	Township <b>29N</b>	Range <b>12W</b>	Feet from the <b>1584</b>	<del>North</del> /South Line	Feet from the <b>823</b>	East/ <del>West</del> Line	County <b>San Juan</b>
-------------------------	---------------------	------------------------	---------------------	---------------------------------	---------------------------------	--------------------------------	-------------------------------	---------------------------

Latitude **36.756889** Longitude **-107.913914**

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release <b>Unknown</b>	Volume Recovered: <b>Unknown</b>
Source of Release: Internal Corrosion	Date and Hour of Occurrence: <b>12/9/2014 @ 2:00 a.m.</b>	Date and Hour of Discovery: <b>12/9/2014 @ 4:05 p.m.</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy to NMOCD - Cory Smith and BLM - Shari Ketchum	
By Whom? Thomas Long	Date and Hour 12/16/2014 @ 1:55 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.\*  
Describe Cause of Problem and Remedial Action: On December 9, 2014, Enterprise technicians confirmed a leak on the Ludwick LS #18 pipeline. The line was isolated and de-pressurized and lock out tag out was applied. Repairs and remediation were completed December 19, 2014. A third party environmental contractor oversaw excavation activities and collected closure samples during repair activities

Describe Area Affected and Cleanup Action: On October 29, 2014, On December 9, 2014, Enterprise technicians confirmed a leak on the Ludwick LS #18 pipeline. The line was isolated and de-pressurized and lock out tag out was applied. Repairs and remediation were completed December 19, 2014. A third party environmental contractor oversaw excavation activities and collected closure samples during repair activities. A "final" c-141 will be submitted upon receipt of the third party environmental contractor corrective action report.

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

Signature: <i>Jon Fields</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: <i>2/6/15</i>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <i>12-22-2014</i>	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

#1503738704  
HCS

①

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

State of New Mexico  
Energy Minerals and Natural Resources

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

RECEIVED

MSD 0012015  
Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Form C-141  
Revised August 8, 2011

NMOCD

DISTRICT

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company: Enterprise Field Services LLC	Contact: Thomas Long
Address: 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name: <b>Trunk K - Five Release Sites</b>	Facility Type: <b>Natural Gas Gathering Line</b>
Surface Owner: BLM	Mineral Owner: BLM
	API No.

**LOCATION OF RELEASE**

Unit Letter <b>B, H, N</b>	Section <b>25/26</b>	Township <b>27N</b>	Range <b>8W</b>	Feet from the	North/South Line	Feet from the	East/West Line	County <b>San Juan</b>
-------------------------------	-------------------------	------------------------	--------------------	---------------	------------------	---------------	----------------	---------------------------

Latitude See Below Longitude See Below

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release: <b>Unknown</b>	Volume Recovered: <b>Unknown</b>
Source of Release: Internal Corrosion	Date and Hour of Occurrence: <b>2/18/2015 @ 2:00 p.m.</b>	Date and Hour of Discovery: <b>2/18/2015 @ 4:00 p.m.</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy Notification: Cory Smith - NMOCD and Shari Ketcham - BLM	
By Whom?	Date and Hour	
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 February 18, 2015, during a routine leak survey, Enterprise discovered five (5) new releases on the Trunk K pipeline. The pipeline was isolated and de-pressurized and lock out tag out was applied. No surface impacts were observed at any of the release locations. The GPS location for each site is the following: **36.549537, -107.649872, 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657,**

Describe Area Affected and Cleanup Action Taken: On February 18, 2015, during a routine leak survey, Enterprise discovered five (5) new releases on the Trunk K pipeline. The pipeline was isolated and de-pressurized and lock out tag out was applied. No surface impacts were observed at any of the release locations. The GPS location for each site is the following: **36.549537, -107.649872, 36.544737, -107.644162, 36.539889, -107.636994, 36.538368, -107.636994 and 36.538072, -107.636657.** A third party environmental contractor will oversee excavation activities and collect closure sample during repair activities. A "Final" C-141 will be submitted upon receipt of the third party environmental contractor corrective action report.

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

Signature: <i>Jon Fields</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: <i>3/13/15</i>	Expiration Date: <i>[Signature]</i>
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <i>2-3-2015</i> Phone: (713)381-6684		

\* Attach Additional Sheets If Necessary

#NCS 150 725 3264

*[Handwritten mark]*

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
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State of New Mexico  
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Oil Conservation Division  
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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: <b>Madsen Gas Com #1E</b>	Facility Type: <b>Natural Gas Gathering Pipeline</b>

Surface Owner: <b>Private</b>	Mineral Owner: <b>BLM</b>	API No.
-------------------------------	---------------------------	---------

**LOCATION OF RELEASE**

Unit Letter <b>C</b>	Section <b>28</b>	Township <b>29N</b>	Range <b>11W</b>	Feet from the <b>1175</b>	<del>North</del> South Line	Feet from the <b>1408</b>	East <del>West</del> Line	County <b>San Juan</b>
-------------------------	----------------------	------------------------	---------------------	------------------------------	--------------------------------	------------------------------	------------------------------	---------------------------

Latitude 36.70080 Longitude -108.00131

**NATURE OF RELEASE**

Type of Release: Natural Gas Liquids	Volume of Release <b>Unknown</b>	Volume Recovered: <b>None</b>
Source of Release: Internal Corrosion	Date and Hour of Occurrence: <b>2/5/2015 @ 10:35 a.m.</b>	Date and Hour of Discovery: <b>2/5/2015 @ 11:20 a.m.</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy Notification – Cory Smith - NMOCD	
By Whom? Thomas Long	Date and	
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 February 5, 2015, a third party reported a leak on the Madsen Gas Com #1E pipeline. Enterprise Technicians were dispatched and confirmed the leak. The pipeline was isolated, de-pressurized and lock out tag out was applied. Repairs and remediation began on February 5, 2015. As remediation activities progressed, the county road was blocked by the excavation and the excavation was backfilled as a safety precaution. A third party environmental contractor oversaw excavation activities and collected soil and groundwater samples. Groundwater impacts were confirmed and additional remediation will be required.

Describe Area Affected and Cleanup Action: On February 5, 2015, a third party reported a leak on the Madsen Gas Com #1E pipeline. Enterprise Technicians were dispatched and confirmed the leak. The pipeline was isolated, de-pressurized and lock out tag out was applied. Repairs and remediation began on February 5, 2015. As remediation activities progressed, the county road was blocked by the excavation and the excavation was backfilled as a safety precaution. A third party environmental contractor oversaw excavation activities and collected soil and groundwater samples. Groundwater impacts were confirmed and additional remediation will be required. A "Final" C-141 will be submitted upon receipt of the third party environmental contractor corrective action report.

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Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Ivan Zirbes	Approved by Environmental Specialist: 	
Title: Sr. Director, Environmental	Approval Date: <u>3/13/15</u>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <u>2-29-2015</u>	Phone: (713)381-6595	



\* Attach Additional Sheets If Necessary

#NCS 150 72 52 223

①

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District IV  
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Oil Conservation Division  
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Santa Fe, NM 87505

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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: Brookhaven A2 Release Site	Facility Type: Natural Gas Gathering Line

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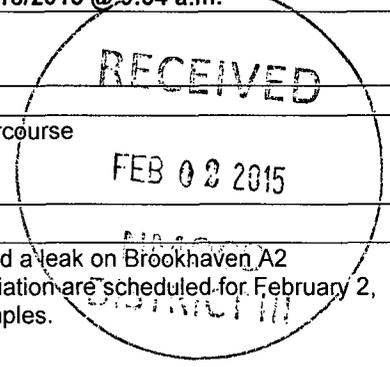
**LOCATION OF RELEASE**

Unit Letter K	Section 29	Township 29N	Range 10W	Feet from the 1668	North <u>South</u> Line	Feet from the 2211	East <u>West</u> Line	County San Juan
------------------	---------------	-----------------	--------------	--------------------------	----------------------------	--------------------------	--------------------------	--------------------

Latitude 36.369369 Longitude -107.921338

**NATURE OF RELEASE**

Type of Release: Natural Gas	Volume of Release: Unknown	Volume Recovered: Unknown
Source of Release: Internal Corrosion	Date and Hour of Occurrence: 1/18/2015 @ 9:34 a.m.	Date and Hour of Discovery: 1/18/2015 @ 9:34 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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 January 18,, 2015, Enterprise technicians confirmed a leak on Brookhaven A2 pipeline. The pipeline was isolated, de-pressurized and lock out tag out was applied. Repairs and remediation are scheduled for February 2, 2015. A third party environmental contractor will oversee excavation activities and collected closure samples.

Describe Area Affected and Cleanup Action: On January 18,, 2015, Enterprise technicians confirmed a leak on Brookhaven A2 pipeline. The pipeline was isolated, de-pressurized and lock out tag out was applied. Repairs and remediation are scheduled for February 2, 2015. A third party environmental contractor will oversee excavation activities and collected closure samples. A "Final" C-141 will be submitted upon receipt of the third party environmental contractor corrective action report.

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

Signature: <i>[Signature]</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: 3/13/15	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 1/28/2015	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

#NCS 150 72 48 45 9

1

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

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JAN 16 2015

NMOCD  
DISTRICT III

Form C-141  
Revised August 8, 2011

**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: Santa Rosa 8#2 Release Site	Facility Type: Natural Gas Gathering Line

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

Unit Letter N	Section 8	Township 29N	Range 9W	Feet from the 1169	North/South Line South	Feet from the 2123	East/West Line West	County San Juan
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Latitude 36.735596 Longitude -107.803623

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release: Unknown	Volume Recovered: Unknown
Source of Release: Internal Corrosion	Date and Hour of Occurrence: 12/30/2014 @ 8:12 a.m.	Date and Hour of Discovery: 12/30/2014 @ 10:12 p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy to NMOCD - Cory Smith and BLM - Shari Ketchum.	
By Whom? Thomas Long	Date and Hour 1/5/2015 @ 3:15 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action: On December 30, 2014, Enterprise technicians confirmed a leak on the Santa Rosa 8#2 pipeline. The line was isolated and de-pressurized and lock out tag out was applied. Area of soil staining or approximately four (4) feet by four (4) feet was observed on the ground surface.. A third party environmental contractor will oversee excavation activities and collected closure samples during repair activities.

Describe Area Affected and Cleanup Action On December 30, 2014, Enterprise technicians confirmed a leak on the Santa Rosa 8#2 pipeline. The line was isolated and de-pressurized and lock out tag out was applied. Area of soil staining or approximately four (4) feet by four (4) feet was observed on the ground surface.. A third party environmental contractor will oversee excavation activities and collected closure samples during repair activities. A "final" c-141 will be submitted upon receipt of the third party environmental contractor corrective action report.

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

Signature: <i>Jon Fields</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: <u>3/13/15</u>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	
Date: <u>1-12-2015</u> Phone: (713)381-6684	Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

#NCS 150 72413 14

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1625 N. French Dr., Hobbs, NM 88240  
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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: <b>Payne #221 Well Tie</b>	Facility Type: Well Tie/Gathering Line
Surface Owner: Private	Mineral Owner: BLM
API No.	

**LOCATION OF RELEASE**

Unit Letter C	Section 22	Township 32N	Range 10W	Feet from the 77	North/South Line	Feet from the 970	East/West Line	County San Juan
------------------	---------------	-----------------	--------------	------------------------	---------------------	-------------------------	-------------------	--------------------

Latitude 36.977664 Longitude -107.874914

OIL CONS. DIV DIST. 3

**NATURE OF RELEASE**

DEC 08 2014

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release: 14.36 MCF	Volume Recovered: None
Source of Release: Internal Corrosion	Date and Hour of Occurrence: 1/22/2014 @ 10:30 a.m.	Date and Hour of Discovery: 1/22/2014 @ 10:30 a.m.
Was Immediate Notice Given? Required <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not	If YES, To Whom? Courtesy Notification to Jonathon Kelly - NMOCD	
By Whom? Thomas Long	Date and Hour: 1/24/2014 @ 11:37a.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 Taken.\* A release was discovered on the well tie to the Payne #221 well site. The Enterprise technician initiated notification procedures. The pipeline was isolated, blown down, depressurized, locked out and tagged out. Approximately 35 gallons of produced water was released to the surface. Repairs and remediation were initiated the week January 27, 2014. Remediation was completed on September 15, 2014. Approximately thirty (30) cubic yards of hydrocarbon impacted soil was excavated and transported a NMOCD approve land farm facility.

Describe Area Affected and Cleanup Action Taken.\* A release was discovered on the well tie to the Payne #221 well site. The Enterprise technician initiated notification procedures. The pipeline was isolated, blown down, depressurized, locked out and tagged out. Approximately 35 gallons of produced water was released to the surface. Repairs and remediation were initiated the week January 27, 2014. Remediation was completed on September 15, 2014. Approximately thirty (30) cubic yards of hydrocarbon impacted soil was excavated and transported a NMOCD approve land farm facility. A third party corrective action report is included with this "Final" C-141.

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

Signature: <i>Jon Fields</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: 3/23/15	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 11-5-2014	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

#HGS 15080231006

44

**Enterprise Products  
Payne #221 Well Tie Pipeline Release  
Latitude North 36.977552°, Longitude West -107.874771°  
Unit D Section 22 T32N R10W  
San Juan County, New Mexico  
October 9, 2014**



**OIL CONS. DIV DIST. 3**

**DEC 08 2014**

**Submitted To:**

Enterprise Products  
Field Environmental-San Juan Basin  
614 Reilly Avenue  
Farmington, NM 87401

**Submitted By:**

Souder, Miller & Associates  
401 West Broadway  
Farmington, NM 87401  
(505)325-7535



## Table of Contents

1.0	Executive Summary .....	1
2.0	Introduction .....	2
3.0	Site Ranking and Land Jurisdiction .....	2
4.0	Summary of Field Activities .....	2
5.0	Conclusions and Recommendations.....	3
6.0	Closure and Limitations.....	4

### **Figures:**

Figure 1: Vicinity Map

Figure 2: Site Map

Figure 3: Soil Contaminant Concentration Map

### **Tables:**

Table 1: Release Information

Table 2: Site Ranking

Table 3: Summary of Laboratory Analysis

### **Appendices:**

Appendix A: Site Photography

Appendix B: Soil Disposal Documentation

Appendix C: Laboratory Analytical Reports

## 1.0 Executive Summary

On January 28, 2014 and September 15, 2014, Souder, Miller & Associates (SMA) responded to a hydrocarbon release associated with the Payne #221 pipeline release. The table below summarizes information about the release and remediation activities.

TABLE 1: RELEASE INFORMATION					
Name	Payne #221 Pipeline Release				
Location	Latitude/Longitude		Section, Township, Range		
	36.977552°	-107.874771°	Unit D	Section 22	T 32N, R 10W
Date Reported	January 22, 2014				
Reported By	Thomas Long				
Land Owner	County maintained road surrounded by private land				
Reported To	BLM, NM Oil Conservation Division (NMOCD)				
Diameter of Pipeline	8 inches				
Source of Release	Natural gas pipeline				
Release Contents	Natural Gas Liquids/Condensate				
Release Volume: Natural Gas	Unknown				
Release Volume: Liquids/Condensate	35 gallons of water				
Nearest Waterway	Animas River				
Depth to Groundwater	Assumed to be less than 50 feet				
Nearest Domestic Water Source	Less than 200 feet				
NMOCD Ranking	50				
SMA Response Dates	1/28/2014 and 9/15/2014				
Subcontractors	Energy Maintenance Services 1/28/2014 West States Energy Contractors (WSEC) 9/15/2014				
Disposal Facility	Industrial Ecosystems Inc. (IEI)				
Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	30				

---

## 2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes remediation of a hydrocarbon release associated with the Payne #221 well tie pipeline. The Payne # 221 release was a result of internal corrosion of the pipeline which allowed the release of natural gas and condensate water. The release was reported on January 22, 2014. The amount of natural gas release is unknown and approximately 35 gallons of water was released. The pipeline is located in Unit D, Section 22, Township 32 North, Range 10 West, 36.977552°, -107.874771°, San Juan County, New Mexico. Figure 1, Vicinity Map, illustrates the location of the release.

## 3.0 Site Ranking and Land Jurisdiction

The release site is located approximately 500 feet west of the Animas River on a county maintained road, surrounded by private land at an elevation of approximately 5,940 feet above sea level. The Animas River elevation adjacent to the site is approximately 5,940 feet. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be less than 50 feet below ground surface (bgs).

SMA searched the New Mexico State Engineer's Office online water well data base for water wells in the vicinity of the release. Three recorded wells were located within 1,000 feet of the site and 29 recorded wells were located within a 1 mile radius. No points of diversion were located within a 1 mile radius of the site. This release location has been assigned a NMOCD ranking of 50 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 100 ppm total petroleum hydrocarbons (TPH).

Table 2 illustrates site ranking rationale.

## 4.0 Summary of Field Activities

Upon discovery of the release, Enterprise personnel isolated and repaired the pipeline. On January 28, 2014, SMA mobilized to the release site to delineate the release area through field screening using a calibrated photoionization detector (PID). SMA provided oversight and guidance of the excavation and hydro-excavation activities of EMS. EMS used a rubber-tired backhoe for the excavation work. During the excavation, soil samples were collected for field screening to determine the extent of the release.

---

The initial excavation measured approximately 20 feet long by 12 feet wide with a maximum excavation depth of approximately 8 feet below ground surface. Field screening of the excavated material determined that the soils removed were suitable for use as backfill material. Point samples for laboratory analysis were collected and submitted for confirmation.

On September 15, 2014, SMA mobilized to the release site to further delineate site contamination. West States Energy Contractors (WSEC) completed excavation activities using a rubber-tired backhoe. The final excavation measured approximately 24 feet long by 10 feet wide with a maximum excavation depth of approximately 10.5 feet below ground surface. Approximately 30 cubic yards of hydrocarbon impacted soil was transported to Industrial Ecosystems Inc. (IEI) near Aztec, New Mexico for offsite disposal. Soil disposal documentation is included in Appendix B.

All laboratory soil samples were field screened with a calibrated PID and submitted for laboratory analysis per United States Environmental Protection Agency Method 8021 BTEX, and 8015 diesel range organics (DRO) and gasoline range organics (GRO) and Method 300 chloride to Hall Environmental Analysis Laboratory of Albuquerque, New Mexico. Figure 3 illustrates the extent of the excavation and laboratory sample locations with analytical report results.

## 5.0 Conclusions and Recommendations

As noted in Section 3.0 of this report, NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 50: 10 ppm benzene, 50 ppm total BTEX, 100 ppm TPH. Laboratory analysis of the "bottom" sample collected from 8 feet below ground surface (bgs), from the initial excavation, detected DRO at a concentration of 11,000 mg/kg, which exceeded NMOCD guidelines. Therefore, as discussed above, the release site was further excavated to a depth of 10.5 feet bgs on September 15, 2014. Laboratory analytical results for the sample collected from 10.5 feet bgs in the final excavation for benzene, total BTEX, and TPH (GRO/DRO) concentrations were all below laboratory detection limits and below the NMOCD Guidelines. A summary of laboratory analysis is included in Table 4. Laboratory reports are included in Appendix D.

---

## 6.0 Closure and Limitations

The scope of SMA's services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, oversight and control of remediation operations, disposal arrangements and documentation, project management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices.

SMA recommends no further action at the Payne #221 release site.

If there are any questions regarding this report, please contact either Steve Moskal or Reid Allan at 505-325-7535.

### SOUDER, MILLER & ASSOCIATES

Submitted by:



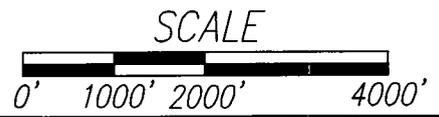
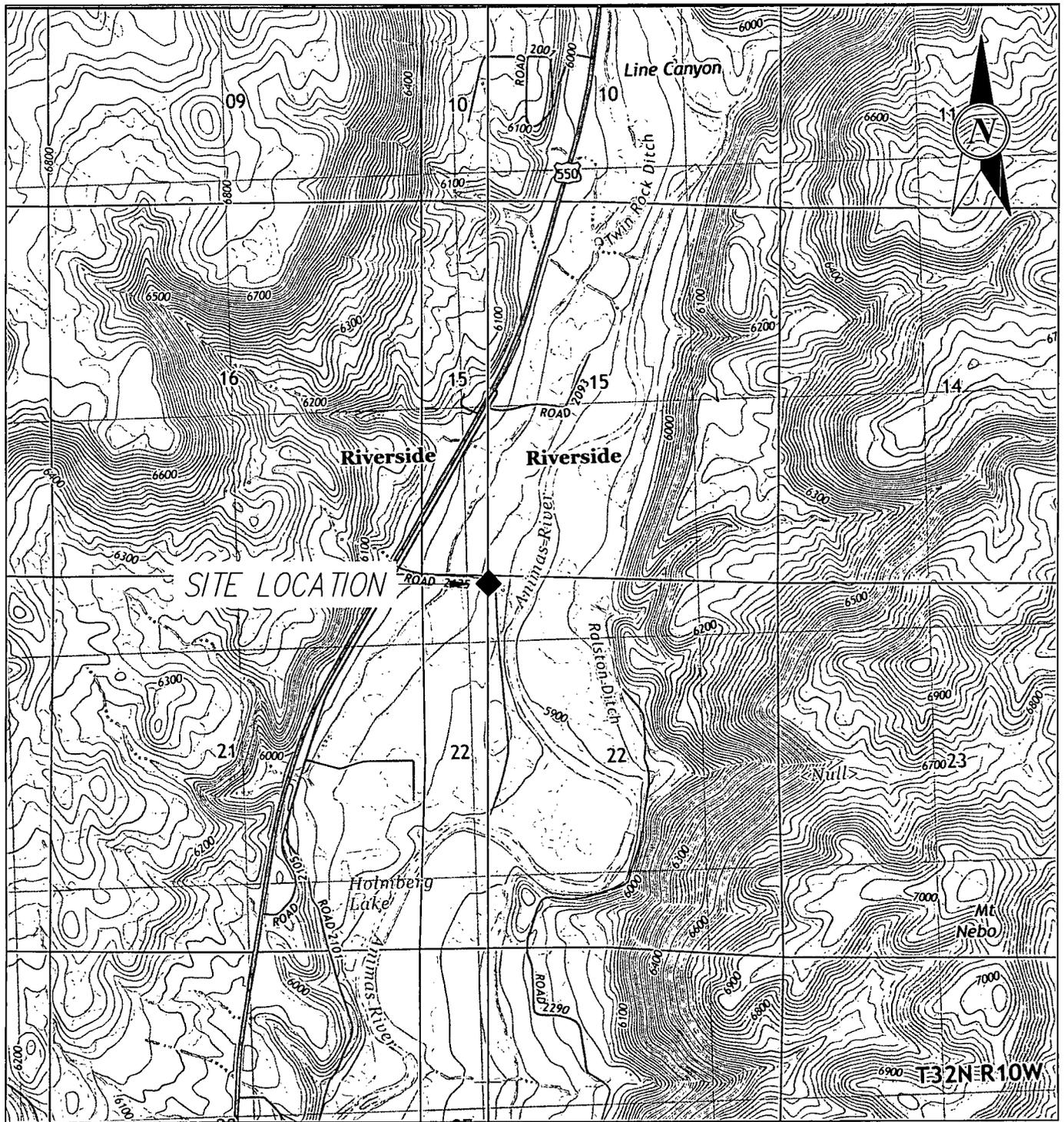
Steve Moskal  
Project Scientist

Reviewed by:



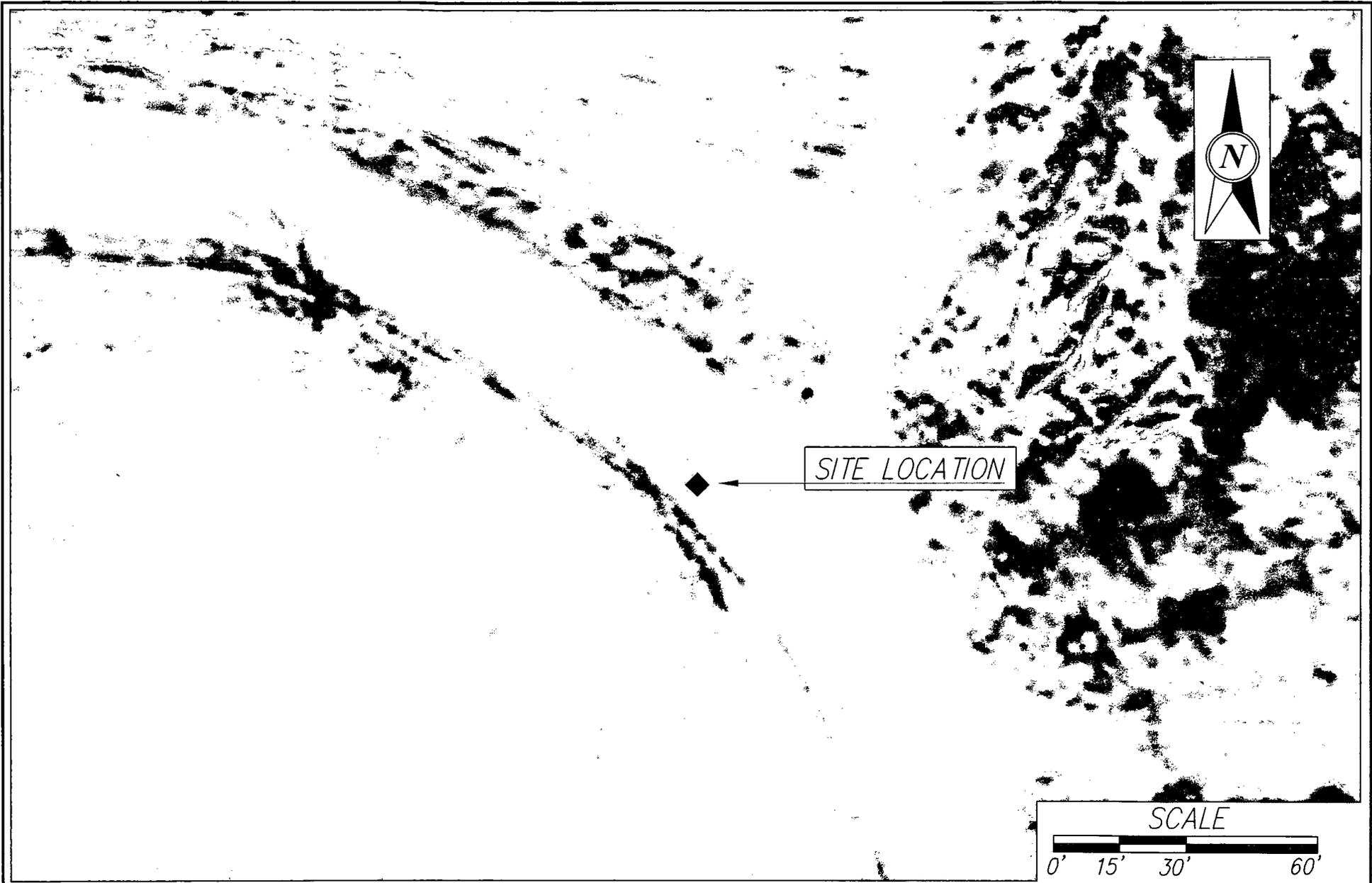
Reid S. Allan, PG  
Principal Scientist

## Figures

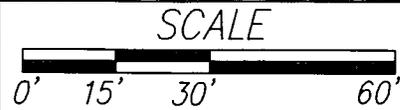


**SOUDER, MILLER & ASSOCIATES**  
 401 W BROADWAY AVENUE  
 FARMINGTON, NM 87401-5907  
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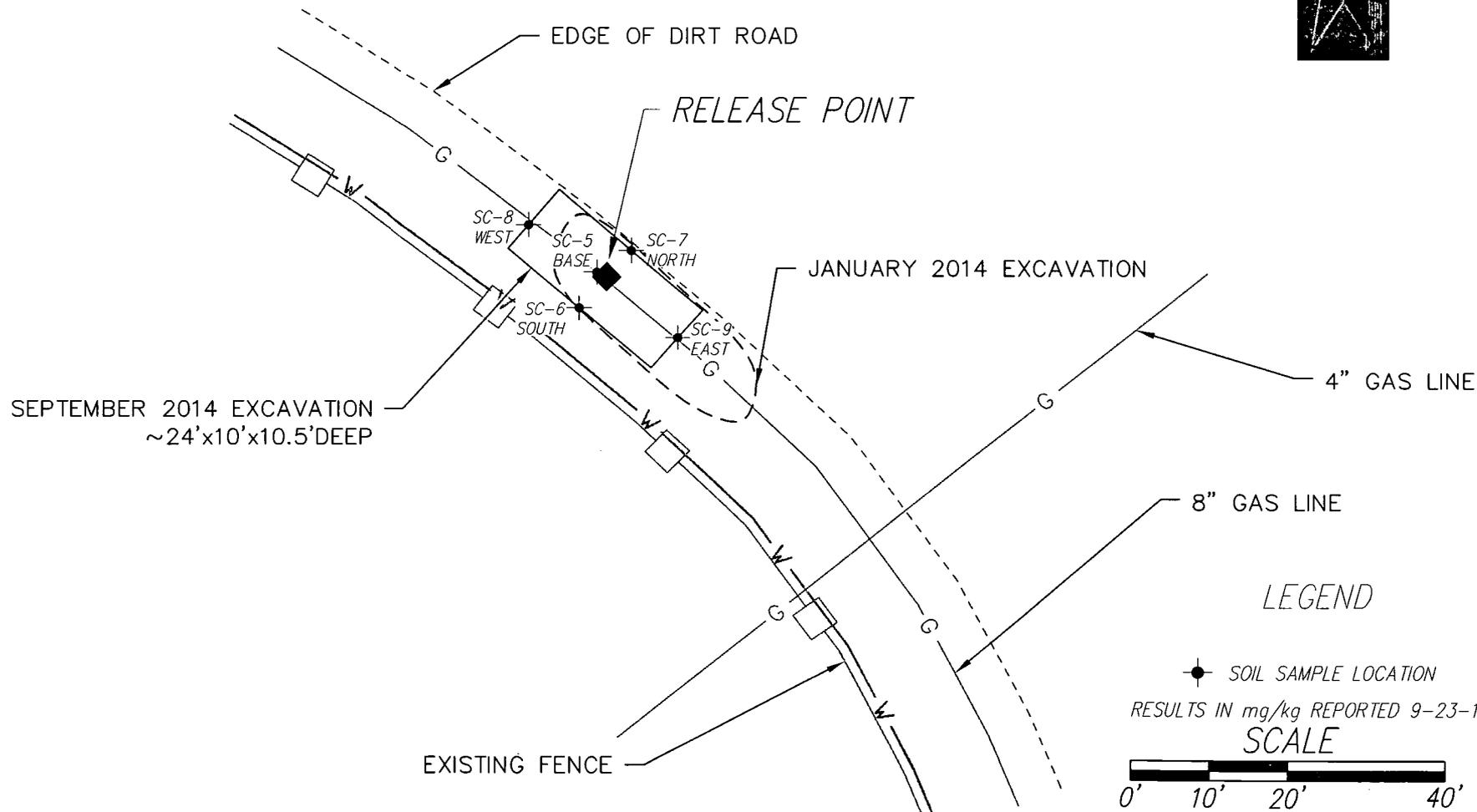
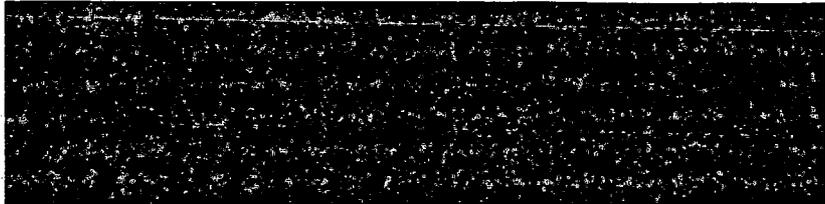
ENTERPRISE	FARMINGTON, NEW MEXICO	Designed SM	Drawn DJB	Checked RSA
<b>VICINITY MAP</b>				
<b>PAYNE #221</b>				
<b>SECTION 22, T32N, R10W</b>				
SAN JUAN COUNTY, NEW MEXICO				
Date: 2/3/2014		Scale: Horiz: 1"=2000' Vert: N/A		
Project No: 5122855		Sheet: 1		



SITE LOCATION



	<b>SOUDER, MILLER &amp; ASSOCIATES</b> 401 W BROADWAY AVENUE FARMINGTON, NM 87401-5907  Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 325-0045 <a href="http://www.soudermiller.com">www.soudermiller.com</a>  Serving the Southwest & Rocky Mountains Albuquerque, Farmington, Las Cruces, Roswell, Santa Fe, NM - El Paso, TX Cortez - Grand Junction - Montrose, CO - Safford, AZ - Moab, UT	ENTERPRISE	FARMINGTON, NEW MEXICO	Designed SM	Drawn DJB	Checked RSA	
		<b>SITE LOCATION MAP</b> <b>PAYNE #221</b> <b>SECTION 22, T32N, R10W</b>			Date: 2/3/2014	Scale: Horiz: 1"=30'	
					Vert: N/A		Project No: 5122855
		SAN JUAN COUNTY, NEW MEXICO			Sheet: 2		
		<small>© Copyright 2014 Souder, Miller &amp; Associates - All Rights Reserved</small>					



**LEGEND**

● SOIL SAMPLE LOCATION  
 RESULTS IN mg/kg REPORTED 9-23-14

**SCALE**



**SOUDER, MILLER & ASSOCIATES**  
 401 W BROADWAY AVENUE  
 FARMINGTON, NM 87401-5907

Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 325-0045  
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ENTERPRISE

FARMINGTON, NEW MEXICO

**SOIL CONTAMINANT CONCENTRATION MAP**  
**PAYNE #221**  
**SECTION 22, T32N, R10W**

SAN JUAN COUNTY, NEW MEXICO

Designed SM	Drawn DJB	Checked RSA
Date: 9/30/2014		
Scale: Horiz: 1"=20' Vert: N/A		
Project No: 5122855		
Sheet: 3		

## Tables

Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20	20	Verified using Google Earth and topo maps; Field verified	Groundwater is assumed to be less than 50 feet below ground surface.
50' to 99' = 10			
>100' = 0			
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20	10	Verified using Google Earth and topo maps; Field verified	The Animas River is between 200 and 1,000 feet east of the site
200'-1000' = 10			
>1000' = 0			
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200' for a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	20	New Mexico State Engineer's Office online water well data base	There are 3 recorded wells within 1,000 feet of the release.
<b>Total Site Ranking</b>	<b>50</b>		
<b>Soil Remedation Standards</b>	<b>0 to 9</b>	<b>10 to 19</b>	<b>&gt;19</b>
<b>Benzene</b>	<b>10 PPM</b>	<b>10 PPM</b>	<b>10 PPM</b>
<b>BTEX</b>	<b>50 PPM</b>	<b>50 PPM</b>	<b>50 PPM</b>
<b>TPH</b>	<b>5000 PPM</b>	<b>1000 PPM</b>	<b>100 PPM</b>



Enterprise Products  
 Table 3: Summary of Laboratory Analysis  
 Results in mg/Kg

Payne #221  
 Pipeline Release  
 10/9/2014

LABORATORY ANALYTICAL SUMMARY								
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX	Method 300 Anions: Chloride
NMOCD Guidelines		NMOCD Site Ranking: 50		100ppm		10ppm	50ppm	
1/28/2014	13:05	Bottom	8.0	<4.9	<b>11,000</b>	<0.049	<0.099	34
1/28/2014	13:05	North	7.0	<4.8	13	<0.048	<0.097	35
1/28/2014	13:05	South	7.0	<4.8	14	<0.048	<0.096	200
1/28/2014	13:05	East	7.0	<4.8	30.0	<0.048	<0.097	400
1/28/2014	13:05	West	7.0	<4.9	14.0	<0.049	<0.098	590
9/15/2014	10:12	SC-5 Base	10.0	<4.4	<9.9	<0.044	<0.088	92
9/15/2014	10:25	SC-6 South	8.0	<4.8	<10	<0.048	<0.095	66
9/15/2014	14:27	SC-7 North	8.0	<4.3	<9.9	<0.043	<0.085	150
9/15/2014	14:30	SC-8 West	8.0	<4.9	<9.9	<0.049	<0.098	210
9/15/2014	14:33	SC-9 East	8.0	<4.4	<10	<0.044	<0.087	130



**Appendix A**  
**Site Photography**

**Site Photographs**  
**Enterprise Products Payne #221 Pipeline Release**

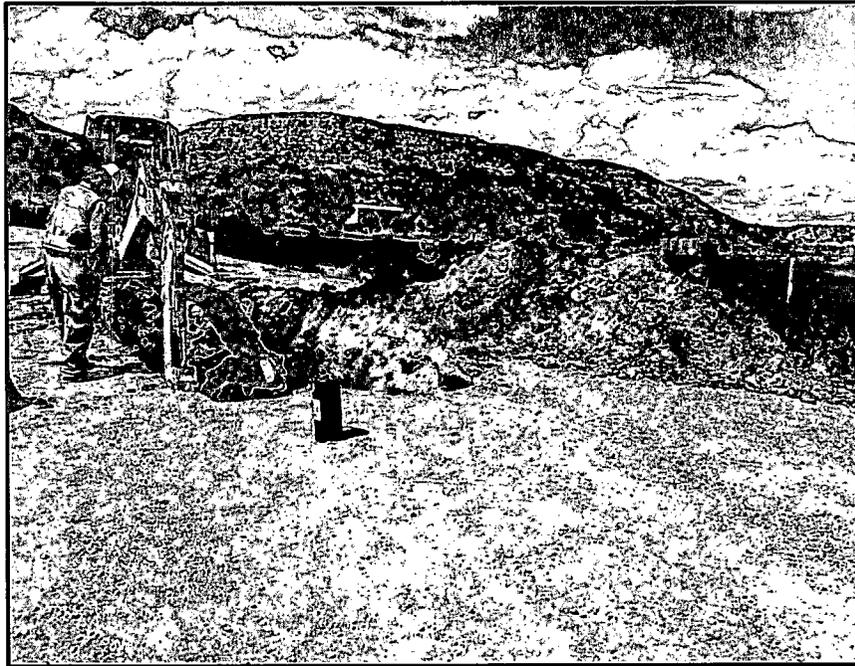


Photo 1: Photo of the Payne #221 Pipeline release facing northeast.



Photo 2: View of the Payne #221 pipeline uncovered.

**Site Photographs**  
**Enterprise Products Payne #221 Pipeline Release**



Photo 3: Excavation during the exposure of the Payne #221 Pipeline.



Photo 4: View of the vertical extent of the excavation.

**Appendix B**  
**Soil Disposal Documentation**

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

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

Form C-138  
Revised 08/01/11

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

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

<b>1. Generator Name and Address:</b> Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
<b>2. Originating Site:</b> Payne #221 Well Tie
<b>3. Location of Material (Street Address, City, State or ULSTR):</b> Unit D Sec 22 T 32 N R 10 W, San Juan County, NM; 36.974646, -107.874562
<b>4. Source and Description of Waste:</b> Source: Hydro excavation Spoils from a Leak from a Natural Gas Gathering Line Description: Soil impacted with Natural Gas Liquids (Condensate and Water) Estimated Volume <u>20</u> yd <sup>3</sup> bbls Known Volume (to be entered by the operator at the end of the haul) <u>20</u> yd <sup>3</sup> bbls <i>9/18/14 - 10 cys</i>
<b>5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS</b> I, Thomas Long <i>Thomas Long</i> , representative or authorized agent for Enterprise Products Operating do hereby <b>Generator Signature</b> certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) <input checked="" type="checkbox"/> RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed exempt waste. <u>Operator Use Only: Waste Acceptance Frequency</u> <input type="checkbox"/> Monthly <input type="checkbox"/> Weekly <input type="checkbox"/> Per Load <input type="checkbox"/> RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous (Check the appropriate items) <input type="checkbox"/> MSDS Information <input type="checkbox"/> RCRA Hazardous Waste Analysis <input checked="" type="checkbox"/> Process Knowledge <input type="checkbox"/> Other (Provide description in _____) <b>GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS</b> I, Thomas Long <i>Thomas Long</i> 9-15-14, representative for Enterprise Products Operating authorize to complete <b>Generator Signature</b> the required testing/sign the Generator Waste Testing Certification. I, <i>K. Delon</i> representative for <u>IEI, Inc.</u> do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. <u>1</u> of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
<b>5. Transporter: EMS</b>

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#### OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: JFJ Landfarm/Industrial Ecosystems, Inc. \* Permit #: NM 01-0010B

Address of Facility: #49 CR 2150 Aztec, New Mexico

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: L. Machado  
SIGNATURE: [Signature]

TITLE: Land Farm Administrator  
TELEPHONE NO.: 505-632-1782

DATE: 9-15-14

Surface Waste Management Facility Authorized Agent

*CL-224*  
*PH-8*

*9-15-14*

**Appendix C**  
**Laboratory Analytical Reports**



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

February 12, 2014

Steve Moskal  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX (505) 327-1496

RE: Payne #221

OrderNo.: 1401B34

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 5 sample(s) on 1/29/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: Bottom

Project: Payne #221

Collection Date: 1/28/2014 1:05:00 PM

Lab ID: 1401B34-001

Matrix: SOIL

Received Date: 1/29/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	11000	100		mg/Kg	10	1/31/2014 1:25:35 PM	11455
Surr: DNOP	0	66-131	S	%REC	10	1/31/2014 1:25:35 PM	11455
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>JMP</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/1/2014 3:14:32 PM	11468
Surr: BFB	88.4	74.5-129		%REC	1	2/1/2014 3:14:32 PM	11468
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>JMP</b>
Benzene	ND	0.049		mg/Kg	1	2/1/2014 3:14:32 PM	11468
Toluene	ND	0.049		mg/Kg	1	2/1/2014 3:14:32 PM	11468
Ethylbenzene	ND	0.049		mg/Kg	1	2/1/2014 3:14:32 PM	11468
Xylenes, Total	ND	0.099		mg/Kg	1	2/1/2014 3:14:32 PM	11468
Surr: 4-Bromofluorobenzene	92.9	80-120		%REC	1	2/1/2014 3:14:32 PM	11468
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	34	7.5		mg/Kg	5	2/4/2014 2:39:28 PM	11534

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Analytical Report**

Lab Order 1401B34

Date Reported: 2/12/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** North

**Project:** Payne #221

**Collection Date:** 1/28/2014 1:05:00 PM

**Lab ID:** 1401B34-002

**Matrix:** SOIL

**Received Date:** 1/29/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	13	10		mg/Kg	1	1/31/2014 4:04:20 PM	11455
Surr: DNOP	109	66-131		%REC	1	1/31/2014 4:04:20 PM	11455
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>JMP</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/3/2014 11:38:54 AM	11468
Surr: BFB	83.2	74.5-129		%REC	1	2/3/2014 11:38:54 AM	11468
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>JMP</b>
Benzene	ND	0.048		mg/Kg	1	2/3/2014 11:38:54 AM	11468
Toluene	ND	0.048		mg/Kg	1	2/3/2014 11:38:54 AM	11468
Ethylbenzene	ND	0.048		mg/Kg	1	2/3/2014 11:38:54 AM	11468
Xylenes, Total	ND	0.097		mg/Kg	1	2/3/2014 11:38:54 AM	11468
Surr: 4-Bromofluorobenzene	91.0	80-120		%REC	1	2/3/2014 11:38:54 AM	11468
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	35	1.5		mg/Kg	1	2/3/2014 3:17:35 PM	11534

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Analytical Report**

Lab Order 1401B34

Date Reported: 2/12/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** South

**Project:** Payne #221

**Collection Date:** 1/28/2014 1:05:00 PM

**Lab ID:** 1401B34-003

**Matrix:** SOIL

**Received Date:** 1/29/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	14	10		mg/Kg	1	1/31/2014 4:34:58 PM	11455
Surr: DNOP	119	66-131		%REC	1	1/31/2014 4:34:58 PM	11455
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>JMP</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/1/2014 5:08:50 PM	11468
Surr: BFB	83.4	74.5-129		%REC	1	2/1/2014 5:08:50 PM	11468
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>JMP</b>
Benzene	ND	0.048		mg/Kg	1	2/1/2014 5:08:50 PM	11468
Toluene	ND	0.048		mg/Kg	1	2/1/2014 5:08:50 PM	11468
Ethylbenzene	ND	0.048		mg/Kg	1	2/1/2014 5:08:50 PM	11468
Xylenes, Total	ND	0.096		mg/Kg	1	2/1/2014 5:08:50 PM	11468
Surr: 4-Bromofluorobenzene	90.7	80-120		%REC	1	2/1/2014 5:08:50 PM	11468
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	200	30		mg/Kg	20	2/3/2014 4:19:40 PM	11534

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates **Client Sample ID:** East  
**Project:** Payne #221 **Collection Date:** 1/28/2014 1:05:00 PM  
**Lab ID:** 1401B34-004 **Matrix:** SOIL **Received Date:** 1/29/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	30	9.9		mg/Kg	1	1/31/2014 5:05:42 PM	11455
Surr: DNOP	101	66-131		%REC	1	1/31/2014 5:05:42 PM	11455
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>JMP</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/1/2014 5:37:29 PM	11468
Surr: BFB	85.4	74.5-129		%REC	1	2/1/2014 5:37:29 PM	11468
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>JMP</b>
Benzene	ND	0.048		mg/Kg	1	2/1/2014 5:37:29 PM	11468
Toluene	ND	0.048		mg/Kg	1	2/1/2014 5:37:29 PM	11468
Ethylbenzene	ND	0.048		mg/Kg	1	2/1/2014 5:37:29 PM	11468
Xylenes, Total	ND	0.097		mg/Kg	1	2/1/2014 5:37:29 PM	11468
Surr: 4-Bromofluorobenzene	93.4	80-120		%REC	1	2/1/2014 5:37:29 PM	11468
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	400	30		mg/Kg	20	2/3/2014 4:44:29 PM	11534

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Analytical Report

Lab Order 1401B34

Date Reported: 2/12/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: West

Project: Payne #221

Collection Date: 1/28/2014 1:05:00 PM

Lab ID: 1401B34-005

Matrix: SOIL

Received Date: 1/29/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	14	9.9		mg/Kg	1	1/31/2014 5:36:16 PM	11455
Surr: DNOP	113	66-131		%REC	1	1/31/2014 5:36:16 PM	11455
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>JMP</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/1/2014 6:06:04 PM	11468
Surr: BFB	86.8	74.5-129		%REC	1	2/1/2014 6:06:04 PM	11468
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>JMP</b>
Benzene	ND	0.049		mg/Kg	1	2/1/2014 6:06:04 PM	11468
Toluene	ND	0.049		mg/Kg	1	2/1/2014 6:06:04 PM	11468
Ethylbenzene	ND	0.049		mg/Kg	1	2/1/2014 6:06:04 PM	11468
Xylenes, Total	ND	0.098		mg/Kg	1	2/1/2014 6:06:04 PM	11468
Surr: 4-Bromofluorobenzene	94.4	80-120		%REC	1	2/1/2014 6:06:04 PM	11468
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	590	30		mg/Kg	20	2/3/2014 5:09:20 PM	11534

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1401B34

12-Feb-14

Client: Souder, Miller and Associates

Project: Payne #221

Sample ID	MB-11534	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	11534	RunNo:	16499					
Prep Date:	2/3/2014	Analysis Date:	2/3/2014	SeqNo:	475170	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-11534	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	11534	RunNo:	16499					
Prep Date:	2/3/2014	Analysis Date:	2/3/2014	SeqNo:	475171	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.3	90	110			

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1401B34

12-Feb-14

Client: Souder, Miller and Associates

Project: Payne #221

Sample ID	<b>LCS-11455</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>11455</b>	RunNo:	<b>16383</b>					
Prep Date:	<b>1/29/2014</b>	Analysis Date:	<b>1/30/2014</b>	SeqNo:	<b>473042</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	10	50.00	0	79.4	60.8	145			
Surr: DNOP	4.2		5.000		84.4	66	131			

Sample ID	<b>MB-11455</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>11455</b>	RunNo:	<b>16383</b>					
Prep Date:	<b>1/29/2014</b>	Analysis Date:	<b>1/30/2014</b>	SeqNo:	<b>473541</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	8.0		10.00		80.3	66	131			

### Qualifiers:

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

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1401B34

12-Feb-14

Client: Souder, Miller and Associates

Project: Payne #221

Sample ID	<b>MB-11468</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>11468</b>	RunNo:	<b>16396</b>					
Prep Date:	<b>1/29/2014</b>	Analysis Date:	<b>1/30/2014</b>	SeqNo:	<b>473264</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		90.4	74.5	129			

Sample ID	<b>LCS-11468</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>11468</b>	RunNo:	<b>16396</b>					
Prep Date:	<b>1/29/2014</b>	Analysis Date:	<b>1/30/2014</b>	SeqNo:	<b>473265</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	74.5	126			
Surr: BFB	970		1000		97.4	74.5	129			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1401B34

12-Feb-14

Client: Souder, Miller and Associates

Project: Payne #221

Sample ID	<b>MB-11468</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>11468</b>	RunNo:	<b>16396</b>					
Prep Date:	<b>1/29/2014</b>	Analysis Date:	<b>1/30/2014</b>	SeqNo:	<b>473291</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID	<b>LCS-11468</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>11468</b>	RunNo:	<b>16396</b>					
Prep Date:	<b>1/29/2014</b>	Analysis Date:	<b>1/30/2014</b>	SeqNo:	<b>473292</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	104	80	120			
Toluene	1.1	0.050	1.000	0	105	80	120			
Ethylbenzene	1.1	0.050	1.000	0	107	80	120			
Xylenes, Total	3.2	0.10	3.000	0	106	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

Sample ID	<b>1401B34-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>Bottom</b>	Batch ID:	<b>11468</b>	RunNo:	<b>16439</b>					
Prep Date:	<b>1/29/2014</b>	Analysis Date:	<b>2/1/2014</b>	SeqNo:	<b>474187</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.048	0.9597	0.01016	102	67.4	135			
Toluene	1.0	0.048	0.9597	0.03092	101	72.6	135			
Ethylbenzene	1.0	0.048	0.9597	0.01122	103	69.4	143			
Xylenes, Total	3.0	0.096	2.879	0.07913	103	70.8	144			
Surr: 4-Bromofluorobenzene	0.91		0.9597		94.5	80	120			

Sample ID	<b>1401B34-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>Bottom</b>	Batch ID:	<b>11468</b>	RunNo:	<b>16439</b>					
Prep Date:	<b>1/29/2014</b>	Analysis Date:	<b>2/1/2014</b>	SeqNo:	<b>474188</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.048	0.9588	0.01016	101	67.4	135	1.47	20	
Toluene	0.96	0.048	0.9588	0.03092	97.2	72.6	135	3.91	20	
Ethylbenzene	0.98	0.048	0.9588	0.01122	101	69.4	143	1.87	20	
Xylenes, Total	3.0	0.096	2.876	0.07913	101	70.8	144	1.94	20	
Surr: 4-Bromofluorobenzene	0.94		0.9588		98.3	80	120	0	0	

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1401B34

RcptNo: 1

Received by/date: [Signature] 01/29/14

Logged By: Lindsay Mangin 1/29/2014 10:00:00 AM [Signature]

Completed By: Lindsay Mangin 1/29/2014 10:35:48 AM [Signature]

Reviewed By: TO 01/29/2014

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes  No
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? (If no, notify customer for authorization.) Yes  No

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

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

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

17. Additional remarks:

**18. Cooler Information**

Cooler No.	Temp. (C)	Condition	Seal Intact	Seal No.	Seal Date	Signed By
1	1.7	Good	Yes			

Client: SMA

Mailing Address: 401 W Broadway  
Farmington Office  
87401

Phone #:

email or Fax#: Steven.moskal@southern.com

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

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

EDD (Type)

Standard     Rush

Project Name: Payne #221

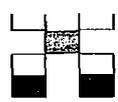
Project #: 5122855

Project Manager: Steve Moskal

Sampler: Laura Van Aist

On Ice:  Yes     No

Sample Temperature: F



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975    Fax 505-345-4107

**Analysis Request**

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB'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 <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	BTEX	Air Bubbles (Y or N)	
1/28/14	13:05	Soil	Bottom	1 Soil Jar	None	-001	X	X												
1/28/14	13:05	↓	North	↓	↓	-002	X	X												
1/28/14	13:05	↓	South	↓	↓	-003	X	X												
1/28/14	13:05	↓	East	↓	↓	-004	X	X												
1/28/14	13:05	↓	West	↓	↓	-005	X	X												

Date: 1/28/14    Time: 16:50    Relinquished by: [Signature]    Received by: [Signature]    Date: 1/28/14    Time: 16:50

Date: 1/29/14    Time: 17:45    Relinquished by: [Signature]    Received by: [Signature]    Date: 01/29/14/1000

Remarks:

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



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

September 23, 2014

Steve Moskal  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX

RE: Payne #221

OrderNo.: 1409707

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/16/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**

Lab Order **1409707**

Date Reported: **9/23/2014**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-5 Base @ 10'

**Project:** Payne #221

**Collection Date:** 9/15/2014 2:12:00 PM

**Lab ID:** 1409707-001

**Matrix:** MEOH (SOIL)

**Received Date:** 9/16/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/16/2014 11:24:31 AM	15310
Surr: DNOP	101	57.9-140		%REC	1	9/16/2014 11:24:31 AM	15310
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	9/16/2014 10:53:42 AM	R21235
Surr: BFB	90.3	80-120		%REC	1	9/16/2014 10:53:42 AM	R21235
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	ND	0.044		mg/Kg	1	9/16/2014 10:53:42 AM	R21235
Toluene	ND	0.044		mg/Kg	1	9/16/2014 10:53:42 AM	R21235
Ethylbenzene	ND	0.044		mg/Kg	1	9/16/2014 10:53:42 AM	R21235
Xylenes, Total	ND	0.088		mg/Kg	1	9/16/2014 10:53:42 AM	R21235
Surr: 4-Bromofluorobenzene	96.4	80-120		%REC	1	9/16/2014 10:53:42 AM	R21235
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	92	30		mg/Kg	20	9/16/2014 10:11:44 AM	15317

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-6 South @ 8'

**Project:** Payne #221

**Collection Date:** 9/15/2014 2:25:00 PM

**Lab ID:** 1409707-002

**Matrix:** MEOH (SOIL)

**Received Date:** 9/16/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/16/2014 11:55:09 AM	15310
Surr: DNOP	98.7	57.9-140		%REC	1	9/16/2014 11:55:09 AM	15310
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/16/2014 12:19:36 PM	R21235
Surr: BFB	108	80-120		%REC	1	9/16/2014 12:19:36 PM	R21235
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	ND	0.048		mg/Kg	1	9/16/2014 12:19:36 PM	R21235
Toluene	ND	0.048		mg/Kg	1	9/16/2014 12:19:36 PM	R21235
Ethylbenzene	ND	0.048		mg/Kg	1	9/16/2014 12:19:36 PM	R21235
Xylenes, Total	ND	0.095		mg/Kg	1	9/16/2014 12:19:36 PM	R21235
Surr: 4-Bromofluorobenzene	100	80-120		%REC	1	9/16/2014 12:19:36 PM	R21235
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	66	30		mg/Kg	20	9/16/2014 10:24:08 AM	15317

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Analytical Report**

Lab Order 1409707

Date Reported: 9/23/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-7 North @ 8'

**Project:** Payne #221

**Collection Date:** 9/15/2014 2:27:00 PM

**Lab ID:** 1409707-003

**Matrix:** MEOH (SOIL)

**Received Date:** 9/16/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/16/2014 12:25:59 PM	15310
Surr: DNOP	102	57.9-140		%REC	1	9/16/2014 12:25:59 PM	15310
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	9/16/2014 12:48:18 PM	R21235
Surr: BFB	96.0	80-120		%REC	1	9/16/2014 12:48:18 PM	R21235
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	ND	0.043		mg/Kg	1	9/16/2014 12:48:18 PM	R21235
Toluene	ND	0.043		mg/Kg	1	9/16/2014 12:48:18 PM	R21235
Ethylbenzene	ND	0.043		mg/Kg	1	9/16/2014 12:48:18 PM	R21235
Xylenes, Total	ND	0.085		mg/Kg	1	9/16/2014 12:48:18 PM	R21235
Surr: 4-Bromofluorobenzene	97.3	80-120		%REC	1	9/16/2014 12:48:18 PM	R21235
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	150	30		mg/Kg	20	9/16/2014 10:36:32 AM	15317

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-8 West @ 8'

Project: Payne #221

Collection Date: 9/15/2014 2:30:00 PM

Lab ID: 1409707-004

Matrix: MEOH (SOIL)

Received Date: 9/16/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/16/2014 12:56:43 PM	15310
Surr: DNOP	105	57.9-140		%REC	1	9/16/2014 12:56:43 PM	15310
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/16/2014 1:17:02 PM	R21235
Surr: BFB	93.7	80-120		%REC	1	9/16/2014 1:17:02 PM	R21235
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	ND	0.049		mg/Kg	1	9/16/2014 1:17:02 PM	R21235
Toluene	ND	0.049		mg/Kg	1	9/16/2014 1:17:02 PM	R21235
Ethylbenzene	ND	0.049		mg/Kg	1	9/16/2014 1:17:02 PM	R21235
Xylenes, Total	ND	0.098		mg/Kg	1	9/16/2014 1:17:02 PM	R21235
Surr: 4-Bromofluorobenzene	98.7	80-120		%REC	1	9/16/2014 1:17:02 PM	R21235
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	210	30		mg/Kg	20	9/16/2014 10:48:57 AM	15317

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates      **Client Sample ID:** SC-9 East @ 8'  
**Project:** Payne #221      **Collection Date:** 9/15/2014 2:33:00 PM  
**Lab ID:** 1409707-005      **Matrix:** MEOH (SOIL)      **Received Date:** 9/16/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/16/2014 1:27:11 PM	15310
Surr: DNOP	103	57.9-140		%REC	1	9/16/2014 1:27:11 PM	15310
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	9/16/2014 1:45:43 PM	R21235
Surr: BFB	94.1	80-120		%REC	1	9/16/2014 1:45:43 PM	R21235
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	ND	0.044		mg/Kg	1	9/16/2014 1:45:43 PM	R21235
Toluene	ND	0.044		mg/Kg	1	9/16/2014 1:45:43 PM	R21235
Ethylbenzene	ND	0.044		mg/Kg	1	9/16/2014 1:45:43 PM	R21235
Xylenes, Total	ND	0.087		mg/Kg	1	9/16/2014 1:45:43 PM	R21235
Surr: 4-Bromofluorobenzene	98.7	80-120		%REC	1	9/16/2014 1:45:43 PM	R21235
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	130	30		mg/Kg	20	9/16/2014 11:01:21 AM	15317

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409707

23-Sep-14

Client: Souder, Miller and Associates

Project: Payne #221

Sample ID	MB-15317	SampType	MBLK	TestCode	EPA Method 300.0: Anions					
Client ID	PBS	Batch ID	15317	RunNo	21247					
Prep Date	9/16/2014	Analysis Date	9/16/2014	SeqNo	619288	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-15317	SampType	LCS	TestCode	EPA Method 300.0: Anions					
Client ID	LCSS	Batch ID	15317	RunNo	21247					
Prep Date	9/16/2014	Analysis Date	9/16/2014	SeqNo	619289	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.0	90	110			

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409707

23-Sep-14

Client: Souder, Miller and Associates

Project: Payne #221

Sample ID	<b>MB-15310</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>15310</b>	RunNo:	<b>21242</b>					
Prep Date:	<b>9/16/2014</b>	Analysis Date:	<b>9/16/2014</b>	SeqNo:	<b>619105</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.2		10.00		92.2	57.9	140			

Sample ID	<b>LCS-15310</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>15310</b>	RunNo:	<b>21242</b>					
Prep Date:	<b>9/16/2014</b>	Analysis Date:	<b>9/16/2014</b>	SeqNo:	<b>619106</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	68.6	130			
Surr: DNOP	4.3		5.000		86.6	57.9	140			

## Qualifiers:

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

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
P Sample pH greater than 2.  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409707

23-Sep-14

Client: Souder, Miller and Associates

Project: Payne #221

Sample ID	<b>MB-15288 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21235</b>	RunNo:	<b>21235</b>					
Prep Date:		Analysis Date:	<b>9/16/2014</b>	SeqNo:	<b>619069</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		92.5	80	120			

Sample ID	<b>LCS-15288 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21235</b>	RunNo:	<b>21235</b>					
Prep Date:		Analysis Date:	<b>9/16/2014</b>	SeqNo:	<b>619070</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	5.0	25.00	0	125	65.8	139			
Surr: BFB	1100		1000		107	80	120			

## Qualifiers:

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

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409707

23-Sep-14

**Client:** Souder, Miller and Associates

**Project:** Payne #221

Sample ID	<b>MB-15288 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21235</b>	RunNo:	<b>21235</b>					
Prep Date:		Analysis Date:	<b>9/16/2014</b>	SeqNo:	<b>619117</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		98.0	80	120			

Sample ID	<b>LCS-15288 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21235</b>	RunNo:	<b>21235</b>					
Prep Date:		Analysis Date:	<b>9/16/2014</b>	SeqNo:	<b>619118</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	105	80	120			
Toluene	1.0	0.050	1.000	0	104	80	120			
Ethylbenzene	1.1	0.050	1.000	0	106	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1409707

RcptNo: 1

Received by/date: [Signature] 09/16/14

Logged By: Lindsay Mangin 9/16/2014 7:00:00 AM [Signature]

Completed By: Lindsay Mangin 9/16/2014 7:17:31 AM [Signature]

Reviewed By: AM 09/16/14

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

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

Adjusted? \_\_\_\_\_

Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

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

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_

By Whom: \_\_\_\_\_ Via:  eMail  Phone  Fax  In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

17. Additional remarks:

**18. Cooler Information**

Cooler No.	Temp °C	Condition	Seal Intact	Seal No.	Seal Date	Signed By
1	4.1	Good	Yes			

# Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W. Broadway  
Farmington, NM 87401  
 Phone #: 505 325-7535  
 email or Fax#: steven.moskal@southernmillcr.com

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

Turn-Around Time:  
 Standard  Rush Same Day

Project Name: Payne # 221 ~~BGT~~

Project #: 5122855 BG 6

Project Manager: Steve Moskal

Sampler: SUM / JES

On Ice:  Yes  No

Sample Temperature: 4

**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	<del>BTEX</del> + <del>MTBE</del> + <del>TMS</del> (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	300-0 Chlorides	Air Bubbles (Y or N)
1/15/14	1412	Soil	SC-5 Base @ 10'	1 4oz	-	1409707 -001	X		X									X	
1/15/14	1425	Soil	SC-6 @ 8' South	1 4oz	-	-002	X		X									X	
1/15/14	1427	Soil	SC-7 North @ 8'	1 4oz	-	-003	X		X									X	
1/15/14	1430	Soil	SC-8 West @ 8'	1 4oz	-	-004	X		X									X	
1/15/14	1433	Soil	SC-9 East @ 8'	1 4oz	-	-005	X		X									X	

Date: 1/15/14 Time: 1600 Relinquished by: [Signature] Received by: Christen Waiters Date: 1/15/14 Time: 1749

Date: 1/15/14 Time: 1826 Relinquished by: [Signature] Received by: [Signature] Date: 01/16/14 Time: 0700

Remarks: Invoice Enterprise  
Please copy Alicia.patterson@southernmillcr.com

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

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

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

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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.

NMOCD  
DISTRICT III

**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: Ludwick LS#18 Release Site	Facility Type: Natural Gas Gathering Line
Surface Owner: BLM	Mineral Owner: BLM
API No.	

**LOCATION OF RELEASE**

Unit Letter E	Section 5	Township 29N	Range 10W	Feet from the 1584	North/South Line	Feet from the 823	East/West Line	County San Juan
------------------	--------------	-----------------	--------------	--------------------------	---------------------	-------------------------	-------------------	--------------------

Latitude 36.756889 Longitude -107.913914

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release <b>164.09 MCF Gas; 5-10 BBLs of Fluids</b>	Volume Recovered: <b>None</b>
Source of Release: Internal Corrosion	Date and Hour of Occurrence: <b>12/9/2014 @ 2:00 a.m.</b>	Date and Hour of Discovery: <b>12/9/2014 @ 4:05 p.m.</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy to NMOCD - Cory Smith and BLM - Shari Ketcham	
By Whom? Thomas Long	Date and Hour 12/16/2014 @ 1:55 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.\*  
Describe Cause of Problem and Remedial Action: On December 9, 2014, Enterprise technicians confirmed a leak on the Ludwick LS #18 pipeline. The line was isolated and de-pressurized and lock out tag out was applied. Repairs and remediation were completed on December 18, 2014. The final excavation dimensions measured approximately forty-eight (48) feet long by ranging from twelve (12) to twenty (20) feet wide ranging from five (5) to twenty (20) feet deep. Approximately 342 cubic yards of hydrocarbon impacted soil was excavated and transported to a NMOCD approved land farm facility.

Describe Area Affected and Cleanup Action: On December 9, 2014, Enterprise technicians confirmed a leak on the Ludwick LS #18 pipeline. The line was isolated and de-pressurized and lock out tag out was applied. Repairs and remediation were completed on December 18, 2014. The final excavation dimensions measured approximately forty-eight (48) feet long by ranging from twelve (12) to twenty (20) feet wide ranging from five (5) to twenty (20) feet deep. Approximately 342 cubic yards of hydrocarbon impacted soil was excavated and transported to a NMOCD approved land farm facility. A third party corrective action report is included with this "Final" C-141.

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

Signature: <i>Jon Fields</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: <u>2/23/15</u>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	
Date: <u>1/21/2015</u>	Attached <input type="checkbox"/>	
Phone: (713)381-6684		

\* Attach Additional Sheets If Necessary

#NCS 1508252180

(47)

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JAN 26 2015

NMOCD  
DISTRICT III

**Enterprise Products**  
**Ludwick LS #18 Pipeline Release**  
**Latitude North 36.756938°, Longitude West -107.913877**  
**Lot 9 (Unit E), Section 5, T29N, R10W**  
**San Juan County, New Mexico**  
**January 5, 2015**



**Submitted To:**

Enterprise Products  
Field Environmental-San Juan Basin  
614 Reilly Avenue  
Farmington, NM 87401

**Submitted By:**

Souder, Miller & Associates  
401 West Broadway  
Farmington, NM 87401  
(505)325-7535



## Table of Contents

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3.0	Site Ranking and Land Jurisdiction .....	1
4.0	Summary of Field Activities .....	2
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Figure 1: Vicinity Map

Figure 2: Site Map

Figure 3: Soil Contaminant Concentration Map

### Tables:

Table 1: Release Information

Table 2: Site Ranking

Table 3: Summary of Laboratory Analysis

### Appendices:

Appendix A: Photographic Documentation

Appendix B: Soil Disposal Documentation

Appendix C: Laboratory Analytical Reports

## 1.0 Executive Summary

From December 15 through December 18, 2014, Souder, Miller & Associates (SMA) responded to oversee the excavation of the hydrocarbon release associated with the Ludwick LS #18 well tie natural gas pipeline. The release was initially reported on December 9, 2014 and is a result of internal and external corrosion of the four inch natural gas pipeline. The table below summarizes information about the pipeline remediation activities.

TABLE 1: RELEASE INFORMATION					
Name	Ludwick LS #18 Pipeline Release				
Location	Latitude/Longitude		Section, Township, Range		
		36.756938°	-107.913877°	Lot 9 (Unit E)	Section 5
Date Reported	December 9, 2014				
Reported to	Tom Long				
Land Owner	Bureau of Land Management (BLM)				
Reported To	NM Oil Conservation Division (NMOCD) and BLM				
Diameter of Pipeline	4 inches				
Source of Release	Internal/External Corrosion				
Release Contents	Natural Gas Liquids/Condensate				
Release Volume	Unknown				
Nearest Waterway	Located within 200' of an unnamed tributary associated with the Valdez Draw drainage basin.				
Depth to Groundwater	Estimated to be less than 50 feet				
Nearest Domestic Water Source	Greater than 1,000 feet				
NMOCD Ranking	40				
SMA Response Dates	12/F11/2014, 21/15-18/2014				
Subcontractors	Halo Services				
Disposal Facility	Envirotech				
Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	342 (Reported on Completed C-138)				

## 2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes remediation of a hydrocarbon release associated with the Ludwick LS #18 pipeline release site. The site is located in Lot 9 (Unit E), Section 5, T29N, R10W, 36.756938°, -107.913877°, San Juan County, New Mexico, on land owned by the BLM. Figure 1 illustrates the vicinity and location of the site.

## 3.0 Site Ranking and Land Jurisdiction

The release site is in an unnamed tributary associated with the Valdez Draw drainage basin, in an area owned by the BLM with an elevation of approximately 5,840 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is

estimated to be less than 50 feet below ground surface (bgs). Figure 1 depicts the site vicinity and Figure 2 depicts the site location.

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No wells were located within 1,000 feet or within a mile radius of the site. The physical location of this release is within the jurisdiction of BLM and NMOCD.

This release location has been assigned a NMOCD ranking of 40 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 100 ppm total petroleum hydrocarbons (TPH). Table 2 illustrates site ranking rationale.

#### **4.0 Summary of Field Activities**

On December 11, 2014, SMA responded to a hydrocarbon release associated with the Ludwick LS #18 well tie pipeline for site reconnaissance. SMA returned to the site on December 15 through December 18, 2014 to oversee and guide excavation of the pipeline during repair and remediation activities. SMA guided the excavation activities by collecting composite soil samples for field screening with a calibrated photo-ionization detector (PID). A single release point was found and the approximate location of the release point is depicted on Figure 3.

The final excavation measured approximately 48 feet long by 12 to 20 feet wide with depths of 5 to 20 feet, covering an area of approximately 736 square feet. Field screening and laboratory results indicated that soils from the excavation were not suitable as backfill material. In total approximately 342 cubic yards of contaminated soil was removed and replaced with clean backfill material. The contaminated soil was transported to Envirotech Landfarm, near Bloomfield, NM. Soil disposal documentation is included in Appendix B.

Soil samples were submitted for confirmation laboratory analysis per United States Environmental Protection Agency Methods: 8021 for benzene, toluene, ethylbenzene, and xylenes (BTEX) and 8015 for diesel and gasoline range organics (DRO/GRO). All samples were analyzed by Hall Environmental Analytical Laboratory in Albuquerque, New Mexico. Figure 3 illustrates the release point, the extent of the excavation, laboratory soil sample locations, and laboratory results.

#### **5.0 Conclusions and Recommendations**

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 40: 10 ppm (mg/kg) benzene, 50 ppm total BTEX, and 100 ppm TPH.

Laboratory analytical results for all samples collected were below NMOCD Guidelines for benzene (10 ppm), BTEX (50 ppm) and combined GRO/DRO (100 ppm). TPH was detected in the northeast wall sample SC-8 @ 0-5' (21 ppm), the east base sample SC-7 @ 6' (55 ppm), the west wall sample SC-12 @ 0-5' (17 ppm), the northwest wall sample SC-13 @ 0-5' (33 ppm) and the central base sample SC-23 @ 20' (6.7 ppm). Total BTEX was detected, below NMOCD Guidelines, in all the samples excluding the northeast wall sample SC-8, the south

---

central wall sample SC-21 and the east central wall sample SC-25. All other sample analytes were below laboratory detection limits.

Soil contaminant concentrations are illustrated in Figure 3. A summary of laboratory analysis is included in Table 3. Laboratory reports are included in Appendix C.

SMA recommends no further action at the Ludwick LS #18 pipeline release location.

## 6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, oversight and control of remediation operations, disposal arrangements and documentation, project management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas pipeline releases in the San Juan Basin in New Mexico.

If there are any questions regarding this report, please contact either Steve Moskal or Reid Allan at 505-325-7535.

Submitted by:

Reviewed by:

SOUDER, MILLER & ASSOCIATES

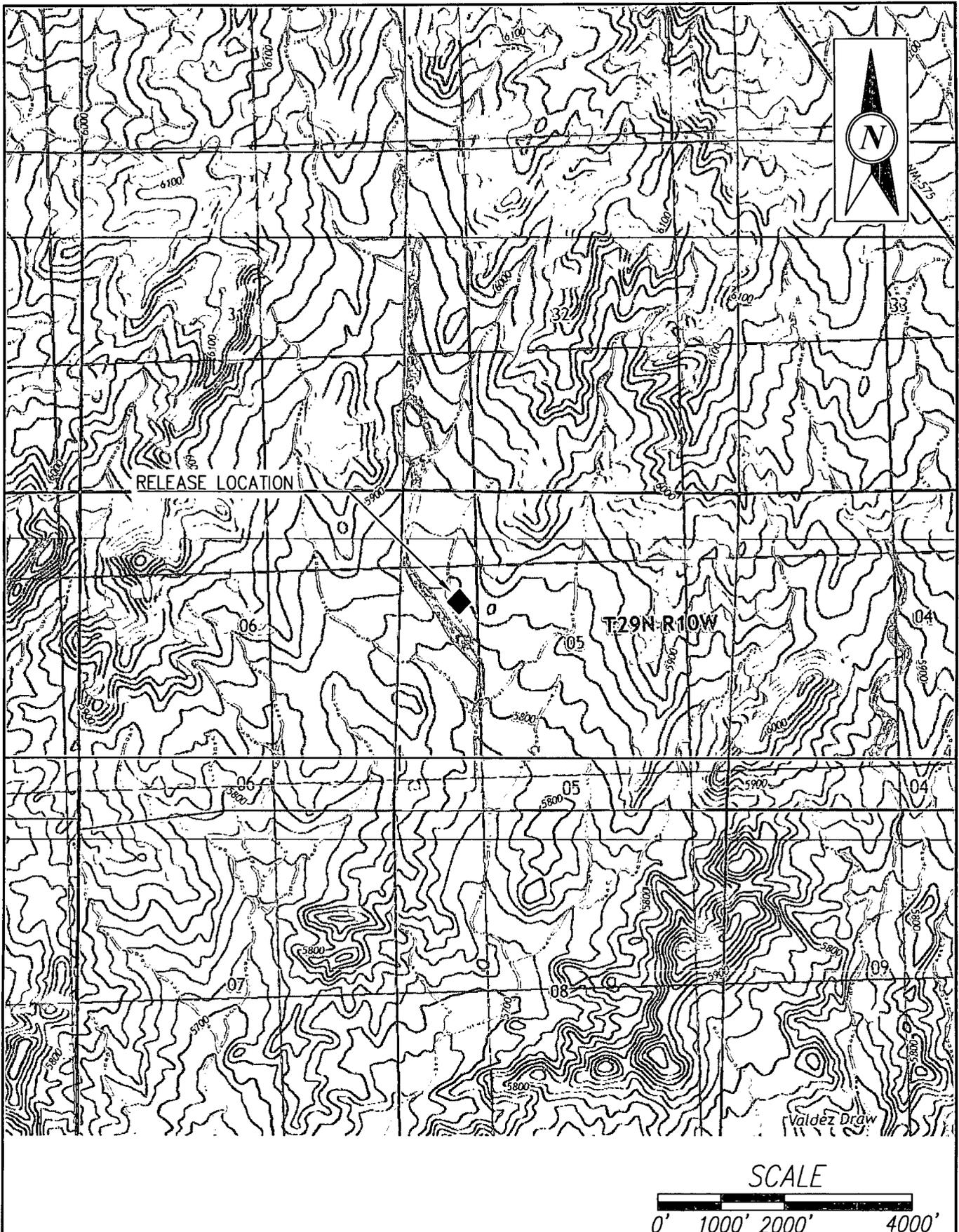


Steve Moskal  
Project Scientist



Reid Allan, P.G.  
Vice President/Principal Scientist

## Figures



SCALE



 <p><b>SMA</b> Engineering Environmental Surveying</p>	<p><b>SOUDER, MILLER &amp; ASSOCIATES</b> 401 West Broadway Avenue Farmington, NM 87401-5907 Phone (505) 325-7533 Toll-Free (800) 519-0098 Fax (505) 325-0045 www.soudermiller.com</p>	<p>ENTERPRISE FARMINGTON, NEW MEXICO</p>		<p>Designed SM</p>	<p>Drawn DJB</p>	<p>Checked RSA</p>
	<p>Serving the Southwest &amp; Rocky Mountains Albuquerque, Carlsbad, Farmington, Las Cruces, Roswell, Santa Fe, NM • El Paso, TX Cortez • Grand Junction • Montrose, CO • Safford, AZ • Moab, UT</p>	<p><b>VICINITY MAP LUDWICK LS#18 SECTION 5, T29N, R10W</b></p>		<p>Date: JANUARY 5, 2015 Scale: Horiz: 1" = 2000' Vert: NA</p>		
	<p>San Juan County, New Mexico</p>	<p>Project No: 5122855</p>		<p>Sheet: 1</p>		
	<p><small>THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS IMPROVED AND DATED.</small></p>	<p>San Juan County, New Mexico</p>		<p>Sheet: 1</p>		



RELEASE SITE



**SOUDER, MILLER & ASSOCIATES**  
401 West Broadway Avenue  
Farmington, NM 87401-5907

Phone (505) 325-7535 Toll-Free (800) 519-5098 Fax (505) 326-0045  
www.soudermiller.com

Serving the Southwest & Rocky Mountains  
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ENTERPRISE

SAN JUAN COUNTY, NEW MEXICO

**SITE LOCATION MAP**  
**LUDWICK LS#18**  
**SECTION 5, T29N, R10W**

FARMINGTON, NEW MEXICO

Designed SM	Drawn DJB	Checked RSA
Date: JANUARY 5, 2015		
Scale: Horiz: 1"=40'		
Vert: N/A		
Project No: 5122855		
Sheet: 2		

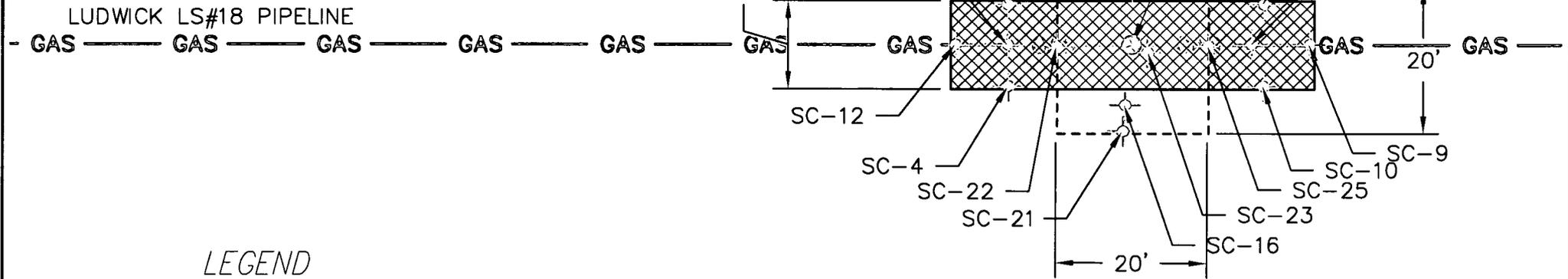
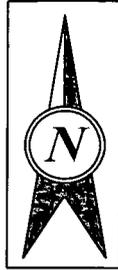
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PAS-Enterprise ISA (2014) 5122855SPILL RESPONSEIBG66 - Ludwick LS #18ICAD\Figures 1 and 2.dwg, DJB, 1/5/2015 9:50 AM

**LABORATORY ANALYTICAL SUMMARY**

**Soil Samples**

Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 40		100 ppm		10 ppm	50 ppm
12/17/2014	15:00	SC-16 S. Center Wall	0-12	<4.6	<9.9	<0.046	0.52
12/17/2014	15:02	SC-8 NE Wall	0-5	<5.2	21	<0.052	<0.10
12/17/2014	15:04	SC-9 E. Wall	0-5	<4.4	<9.8	<0.044	0.11
12/17/2014	15:05	SC-10 SE Wall	0-5	<5.1	<10	<0.051	0.12
12/17/2014	15:10	SC-7 E. Base	6	<5.0	55	<0.050	0.19
12/17/2014	15:12	SC-11 SW Wall	0-5	<6.0	<10	<0.060	0.12
12/17/2014	15:13	SC-12 W. Wall	0-5	<5.4	17	<0.054	0.23
12/17/2014	15:14	SC-13 NW Wall	0-5	11	20	<0.044	0.887
12/17/2014	15:15	SC-6 W. Base	6	<4.8	16	<0.048	0.332
12/18/2014	16:00	SC-21 S. Central Wall	0-20	<3.5	<9.9	<0.035	<0.069
12/18/2014	16:02	SC-22 W. Central Wall	0-20	<3.2	<11	<0.032	0.083
12/18/2014	16:05	SC-23 Central Base	20	6.7	<10	<0.037	0.23
12/18/2014	16:08	SC-24 N. Central Wall	0-20	<3.4	<9.9	<0.034	0.139
12/18/2014	16:10	SC-25 E. Central Wall	0-20	<3.4	<10	<0.034	<0.068



**LEGEND**

⊙ SOIL SAMPLE LOCATION

FINAL SOIL RESULTS IN mg/kg REPORTED 12/22/14



**SOUDER, MILLER & ASSOCIATES**  
 401 West Broadway Avenue  
 Farmington, NM 87401-5907  
 Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 326-0045  
 www.soudermiller.com  
 Serving the Southwest & Rocky Mountains  
 Albuquerque, Farmington, Las Cruces, Roswell, Santa Fe, NM - El Paso, TX  
 Cortez - Grand Junction - Montrose, CO - Safford, AZ - Moab, UT

ENTERPRISE

FARMINGTON, NEW MEXICO

**SOIL CONTAMINANT CONCENTRATION MAP**  
**LUDWICK LS#18**  
**SECTION 5, T29N, R10W**

SAN JUAN COUNTY, NEW MEXICO

Designed SM	Drawn DJB	Checked RSA
Date: JANUARY 5, 2015		
Scale: Horiz: 1"=20' Vert: N/A		
Project No: 5122855		
Sheet: 3		

## **Tables**

Enterprise Products  
Table 2: Site Ranking Criteria

Ludwick LS #18  
Pipeline Release  
1/5/2015

Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20	20	Topographic Maps and Field Verification	Groundwater estimated to be less than 50 feet below ground surface.
50' to 99' = 10			
>100' = 0			
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20	20	Topographic Maps and Field Verification	Located within 200' of an unnamed tributary associated with the Valdez Draw drainage basin.
200'-1000' = 10			
>1000'			
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200' for a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database	No recorded water wells located within 1,000 feet or within a 1 mile radius.
<b>Total Site Ranking</b>	<b>40</b>		
<b>Soil Remediation Standards</b>	0 to 9	10 to 19	>19
<b>Benzene</b>	10 PPM	10 PPM	<b>10 PPM</b>
<b>BTEX</b>	50 PPM	50 PPM	<b>50 PPM</b>
<b>TPH</b>	5000 PPM	1000 PPM	<b>100 PPM</b>



Enterprise Products  
Table 3: Laboratory Results Summary  
(mg/kg)

Ludwick LS #18  
Pipeline Release  
1/5/2015

<b>LABORATORY ANALYTICAL SUMMARY</b>							
<b>Soil Samples</b>							
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 40		100 ppm		10 ppm	50 ppm
12/17/2014	15:00	SC-16 S. Center Wall	0-12	<4.6	<9.9	<0.046	0.52
12/17/2014	15:02	SC-8 NE Wall	0-5	<5.2	21	<0.052	<0.10
12/17/2014	15:04	SC-9 E. Wall	0-5	<4.4	<9.8	<0.044	0.11
12/17/2014	15:05	SC-10 SE Wall	0-5	<5.1	<10	<0.051	0.12
12/17/2014	15:10	SC-7 E. Base	6	<5.0	55	<0.050	0.19
12/17/2014	15:12	SC-11 SW Wall	0-5	<6.0	<10	<0.060	0.12
12/17/2014	15:13	SC-12 W. Wall	0-5	<5.4	17	<0.054	0.23
12/17/2014	15:14	SC-13 NW Wall	0-5	11	20	<0.044	0.887
12/17/2014	15:15	SC-6 W. Base	6	<4.8	16	<0.048	0.332
12/18/2014	16:00	SC-21 S. Central Wall	0-20	<3.5	<9.9	<0.035	<0.069
12/18/2014	16:02	SC-22 W. Central Wall	0-20	<3.2	<11	<0.032	0.083
12/18/2014	16:05	SC-23 Central Base	20	6.7	<10	<0.037	0.23
12/18/2014	16:08	SC-24 N. Central Wall	0-20	<3.4	<9.9	<0.034	0.139
12/18/2014	16:10	SC-25 E. Central Wall	0-20	<3.4	<10	<0.034	<0.068



**Appendix A**  
**Photographic Documentation**

**Site Photographs**  
**Enterprise Products Ludwick LS #18 Pipeline Release**

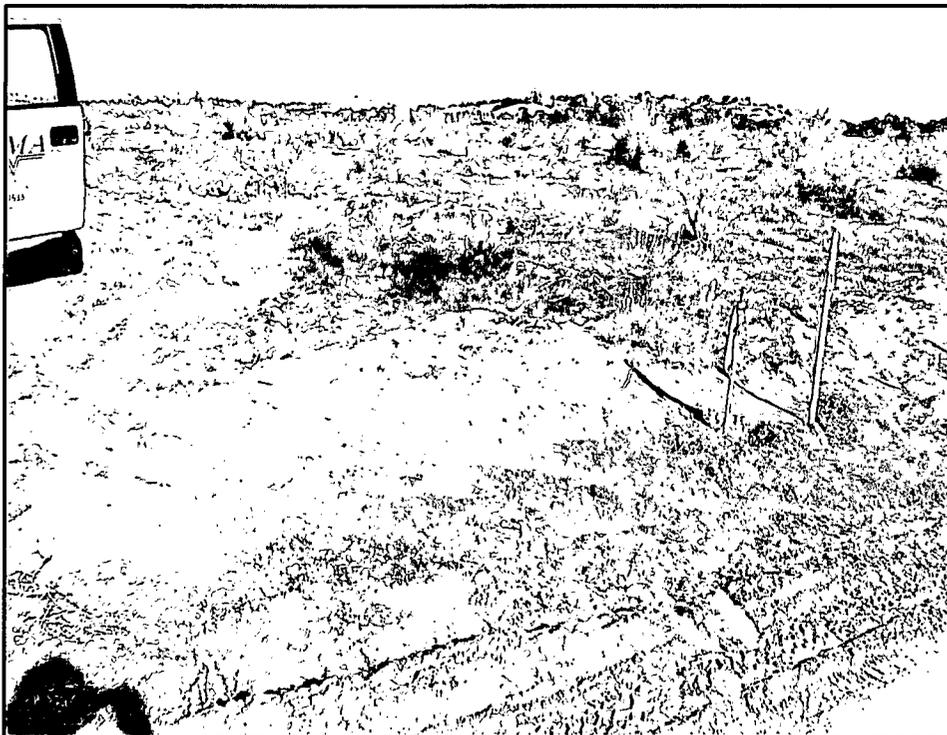


Photo 1: The Ludwick LS #18 site prior to excavation activities. The release point is marked with the white stakes.



Photo 2: Beginning of the Ludwick LS #18 pipeline excavation for repairs.

**Site Photographs**  
**Enterprise Products Ludwick LS #18 Pipeline Release**



Photo 3: View of releas point found on the Ludwick LS #18 pipline.



Photo 4: Preliminary remediation excavation following completion of the repairs to the Ludwick LS #18 pipeline.

**Site Photographs**  
**Enterprise Products Ludwick LS #18 Pipeline Release**



Photo 5: Continued excavation of the Ludwick LS #18 pipeline beyond the reach of 12 feet by a rubber-tired backhoe.

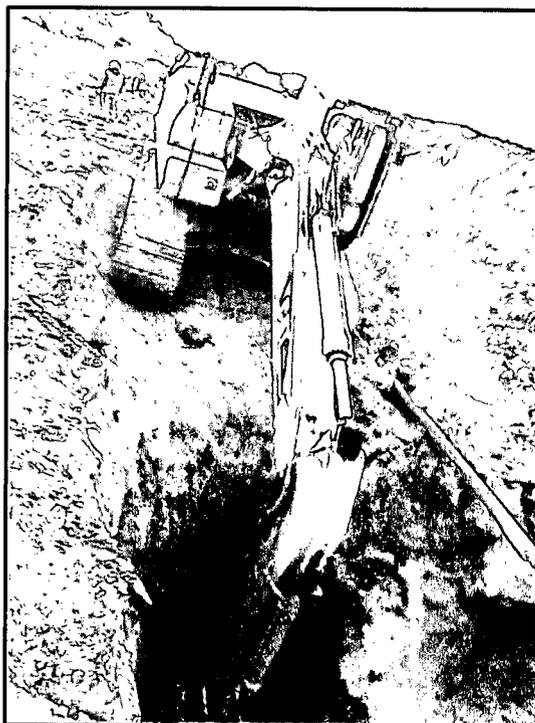


Photo 6: Photo of the Ludwick LS #18 pipeline excavation reaching 20' below ground surface.

**Appendix B**  
**Soil Disposal Documentation**

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 97057-0679  
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	Dec. 2014
2. Originating Site: Ludwick LS#18 Pipeline	
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter E, Section 5, T29N, R12W; 36.67025, -108.15848	
4. Source and Description of Waste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline.	
5. Estimated Volume <u>50</u> yd <sup>3</sup> bbls Known Volume (to be entered by the operator at the end of the haul) <u>342</u> yd <sup>3</sup> bbls	
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS	
I, <u>Thomas Long</u> representative or authorized agent for <u>Enterprise Field Services, LLC</u> do hereby PRINT & SIGN NAME COMPANY NAME certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)	
<input checked="" type="checkbox"/> RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. <u>Operator Use Only: Waste Acceptance Frequency</u> <input type="checkbox"/> Monthly <input type="checkbox"/> Weekly <input type="checkbox"/> Per Load	
<input type="checkbox"/> RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)	
<input type="checkbox"/> MSDS Information <input type="checkbox"/> RCRA Hazardous Waste Analysis <input type="checkbox"/> Process Knowledge <input type="checkbox"/> Other (Provide description in Box 4)	
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS	
I, <u>Thomas Long</u> , representative for <u>Enterprise Field Services, LLC</u> authorize Envirotech, Inc. to Generator Signature complete the required testing/sign the Generator Waste Testing Certification.	
I, <u>Kendra Rurung</u> , representative for <u>Envirotech, Inc.</u> do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.	
6. Transporter: West State Energy Contractors <u>Del Prado, Lobato Trucking, Riehl Trucking, Hal</u>	

#### OCD Permitted Surface Waste Management Facility

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

#### Method of Treatment and/or Disposal:

Evaporation  Injection  Treating Plant  Landfarm  Landfill  Other

#### Waste Acceptance Status:

APPROVED

DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Kendra Rurung

TITLE: Waste Coordinator

DATE: 12/17/14

SIGNATURE: Kendra Rurung

TELEPHONE NO.: 505-632-0615

Surface Waste Management Facility Authorized Agent

**Appendix C**  
**Laboratory Analytical Reports**



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

December 19, 2014

Steve Moskal

Souder, Miller and Associates

401 W. Broadway

Farmington, NM 87401

TEL: (505) 325-5667

FAX

RE: Ludwick LS #18

OrderNo.: 1412894

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 9 sample(s) on 12/18/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

**Analytical Report**

Lab Order 1412894

**Hall Environmental Analysis Laboratory, Inc.**

Date Reported: 12/19/2014

**CLIENT:** Souder, Miller and Associates**Client Sample ID:** SC-16 S. Center Wall @ 0-12'**Project:** Ludwick LS #18**Collection Date:** 12/17/2014 3:00:00 PM**Lab ID:** 1412894-001**Matrix:** MEOH (SOIL)**Received Date:** 12/18/2014 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/18/2014 11:12:53 AM	16898
Surr: DNOP	77.8	63.5-128		%REC	1	12/18/2014 11:12:53 AM	16898
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/18/2014 9:56:35 AM	R23228
Surr: BFB	107	80-120		%REC	1	12/18/2014 9:56:35 AM	R23228
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.046		mg/Kg	1	12/18/2014 9:56:35 AM	R23228
Toluene	0.22	0.046		mg/Kg	1	12/18/2014 9:56:35 AM	R23228
Ethylbenzene	ND	0.046		mg/Kg	1	12/18/2014 9:56:35 AM	R23228
Xylenes, Total	0.30	0.091		mg/Kg	1	12/18/2014 9:56:35 AM	R23228
Surr: 4-Bromofluorobenzene	129	80-120	S	%REC	1	12/18/2014 9:56:35 AM	R23228

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates **Client Sample ID:** SC-8 NE Wall @ 0-5'  
**Project:** Ludwick LS #18 **Collection Date:** 12/17/2014 3:02:00 PM  
**Lab ID:** 1412894-002 **Matrix:** MEOH (SOIL) **Received Date:** 12/18/2014 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	21	9.8		mg/Kg	1	12/18/2014 12:20:38 PM	16898
Surr: DNOP	80.2	63.5-128		%REC	1	12/18/2014 12:20:38 PM	16898
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.2		mg/Kg	1	12/18/2014 10:24:04 AM	R23228
Surr: BFB	107	80-120		%REC	1	12/18/2014 10:24:04 AM	R23228
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.052		mg/Kg	1	12/18/2014 10:24:04 AM	R23228
Toluene	ND	0.052		mg/Kg	1	12/18/2014 10:24:04 AM	R23228
Ethylbenzene	ND	0.052		mg/Kg	1	12/18/2014 10:24:04 AM	R23228
Xylenes, Total	ND	0.10		mg/Kg	1	12/18/2014 10:24:04 AM	R23228
Surr: 4-Bromofluorobenzene	125	80-120	S	%REC	1	12/18/2014 10:24:04 AM	R23228

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates **Client Sample ID:** SC-9 E Wall @ 0-5'  
**Project:** Ludwick LS #18 **Collection Date:** 12/17/2014 3:04:00 PM  
**Lab ID:** 1412894-003 **Matrix:** MEOH (SOIL) **Received Date:** 12/18/2014 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/18/2014 12:42:08 PM	16898
Surr: DNOP	79.2	63.5-128		%REC	1	12/18/2014 12:42:08 PM	16898
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	12/18/2014 11:18:35 AM	R23228
Surr: BFB	109	80-120		%REC	1	12/18/2014 11:18:35 AM	R23228
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.044		mg/Kg	1	12/18/2014 11:18:35 AM	R23228
Toluene	ND	0.044		mg/Kg	1	12/18/2014 11:18:35 AM	R23228
Ethylbenzene	ND	0.044		mg/Kg	1	12/18/2014 11:18:35 AM	R23228
Xylenes, Total	0.11	0.089		mg/Kg	1	12/18/2014 11:18:35 AM	R23228
Surr: 4-Bromofluorobenzene	135	80-120	S	%REC	1	12/18/2014 11:18:35 AM	R23228

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates **Client Sample ID:** SC-10 SE Wall @ 0-5'  
**Project:** Ludwick LS #18 **Collection Date:** 12/17/2014 3:05:00 PM  
**Lab ID:** 1412894-004 **Matrix:** MEOH (SOIL) **Received Date:** 12/18/2014 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/18/2014 1:03:42 PM	16898
Surr: DNOP	78.0	63.5-128		%REC	1	12/18/2014 1:03:42 PM	16898
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.1		mg/Kg	1	12/18/2014 11:58:50 AM	16880
Surr: BFB	95.0	80-120		%REC	1	12/18/2014 11:58:50 AM	16880
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.051		mg/Kg	1	12/18/2014 11:58:50 AM	16880
Toluene	ND	0.051		mg/Kg	1	12/18/2014 11:58:50 AM	16880
Ethylbenzene	ND	0.051		mg/Kg	1	12/18/2014 11:58:50 AM	16880
Xylenes, Total	0.12	0.10		mg/Kg	1	12/18/2014 11:58:50 AM	16880
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	12/18/2014 11:58:50 AM	16880

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates      Client Sample ID: SC-7 E Base @ 6'  
 Project: Ludwick LS #18      Collection Date: 12/17/2014 3:10:00 PM  
 Lab ID: 1412894-005      Matrix: MEOH (SOIL)      Received Date: 12/18/2014 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	22	10		mg/Kg	1	12/18/2014 1:25:09 PM	16898
Surr: DNOP	81.7	63.5-128		%REC	1	12/18/2014 1:25:09 PM	16898
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/18/2014 12:27:36 PM	16880
Surr: BFB	95.4	80-120		%REC	1	12/18/2014 12:27:36 PM	16880
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	12/18/2014 12:27:36 PM	16880
Toluene	ND	0.050		mg/Kg	1	12/18/2014 12:27:36 PM	16880
Ethylbenzene	ND	0.050		mg/Kg	1	12/18/2014 12:27:36 PM	16880
Xylenes, Total	0.19	0.10		mg/Kg	1	12/18/2014 12:27:36 PM	16880
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	12/18/2014 12:27:36 PM	16880

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-11 SW Wall @ 0-5'

**Project:** Ludwick LS #18

**Collection Date:** 12/17/2014 3:12:00 PM

**Lab ID:** 1412894-006

**Matrix:** MEOH (SOIL)

**Received Date:** 12/18/2014 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/18/2014 1:46:53 PM	16898
Surr: DNOP	75.9	63.5-128		%REC	1	12/18/2014 1:46:53 PM	16898
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	6.0		mg/Kg	1	12/18/2014 12:56:22 PM	16880
Surr: BFB	94.6	80-120		%REC	1	12/18/2014 12:56:22 PM	16880
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.060		mg/Kg	1	12/18/2014 12:56:22 PM	16880
Toluene	ND	0.060		mg/Kg	1	12/18/2014 12:56:22 PM	16880
Ethylbenzene	ND	0.060		mg/Kg	1	12/18/2014 12:56:22 PM	16880
Xylenes, Total	ND	0.12		mg/Kg	1	12/18/2014 12:56:22 PM	16880
Surr: 4-Bromofluorobenzene	101	80-120		%REC	1	12/18/2014 12:56:22 PM	16880

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-12 W Wall @ 0-5'

Project: Ludwick LS #18

Collection Date: 12/17/2014 3:13:00 PM

Lab ID: 1412894-007

Matrix: MEOH (SOIL)

Received Date: 12/18/2014 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	17	10		mg/Kg	1	12/18/2014 12:41:07 PM	16888
Surr: DNOP	83.1	63.5-128		%REC	1	12/18/2014 12:41:07 PM	16888
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.4		mg/Kg	1	12/18/2014 1:25:04 PM	16880
Surr: BFB	95.7	80-120		%REC	1	12/18/2014 1:25:04 PM	16880
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.054		mg/Kg	1	12/18/2014 1:25:04 PM	16880
Toluene	ND	0.054		mg/Kg	1	12/18/2014 1:25:04 PM	16880
Ethylbenzene	ND	0.054		mg/Kg	1	12/18/2014 1:25:04 PM	16880
Xylenes, Total	0.23	0.11		mg/Kg	1	12/18/2014 1:25:04 PM	16880
Surr: 4-Bromofluorobenzene	101	80-120		%REC	1	12/18/2014 1:25:04 PM	16880

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates **Client Sample ID:** SC-13 NW Wall @ 0-5'  
**Project:** Ludwick LS #18 **Collection Date:** 12/17/2014 3:14:00 PM  
**Lab ID:** 1412894-008 **Matrix:** MEOH (SOIL) **Received Date:** 12/18/2014 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	20	10		mg/Kg	1	12/18/2014 1:11:19 PM	16898
Surr: DNOP	82.8	63.5-128		%REC	1	12/18/2014 1:11:19 PM	16898
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	11	4.4		mg/Kg	1	12/18/2014 1:53:45 PM	16880
Surr: BFB	132	80-120	S	%REC	1	12/18/2014 1:53:45 PM	16880
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.044		mg/Kg	1	12/18/2014 1:53:45 PM	16880
Toluene	0.098	0.044		mg/Kg	1	12/18/2014 1:53:45 PM	16880
Ethylbenzene	0.049	0.044		mg/Kg	1	12/18/2014 1:53:45 PM	16880
Xylenes, Total	0.74	0.088		mg/Kg	1	12/18/2014 1:53:45 PM	16880
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	12/18/2014 1:53:45 PM	16880

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

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E	Value above quantitation range	H Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates  
 Project: Ludwick LS #18  
 Lab ID: 1412894-009

Client Sample ID: SC-6 W Base @ 6'  
 Collection Date: 12/17/2014 3:15:00 PM  
 Matrix: MEOH (SOIL) Received Date: 12/18/2014 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	16	10		mg/Kg	1	12/18/2014 1:41:34 PM	16898
Surr: DNOP	83.7	63.5-128		%REC	1	12/18/2014 1:41:34 PM	16898
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/18/2014 2:22:25 PM	16880
Surr: BFB	97.2	80-120		%REC	1	12/18/2014 2:22:25 PM	16880
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.048		mg/Kg	1	12/18/2014 2:22:25 PM	16880
Toluene	0.062	0.048		mg/Kg	1	12/18/2014 2:22:25 PM	16880
Ethylbenzene	ND	0.048		mg/Kg	1	12/18/2014 2:22:25 PM	16880
Xylenes, Total	0.27	0.095		mg/Kg	1	12/18/2014 2:22:25 PM	16880
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	12/18/2014 2:22:25 PM	16880

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

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412894

19-Dec-14

**Client:** Souder, Miller and Associates

**Project:** Ludwick LS #18

Sample ID	<b>MB-16898</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>16898</b>	RunNo:	<b>23210</b>					
Prep Date:	<b>12/18/2014</b>	Analysis Date:	<b>12/18/2014</b>	SeqNo:	<b>685651</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	7.5		10.00		75.5	63.5	128			

Sample ID	<b>LCS-16898</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>16898</b>	RunNo:	<b>23210</b>					
Prep Date:	<b>12/18/2014</b>	Analysis Date:	<b>12/18/2014</b>	SeqNo:	<b>685652</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	62	10	50.00	0	124	68.6	130			
Surr: DNOP	4.5		5.000		89.4	63.5	128			

Sample ID	<b>1412894-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-16 S. Center Wal</b>	Batch ID:	<b>16898</b>	RunNo:	<b>23212</b>					
Prep Date:	<b>12/18/2014</b>	Analysis Date:	<b>12/18/2014</b>	SeqNo:	<b>686089</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	49.85	6.272	94.0	29.2	176			
Surr: DNOP	5.0		4.985		100	63.5	128			

Sample ID	<b>1412894-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-16 S. Center Wal</b>	Batch ID:	<b>16898</b>	RunNo:	<b>23212</b>					
Prep Date:	<b>12/18/2014</b>	Analysis Date:	<b>12/18/2014</b>	SeqNo:	<b>686090</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	49.85	6.272	95.0	29.2	176	0.945	23	
Surr: DNOP	5.0		4.985		101	63.5	128	0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412894

19-Dec-14

Client: Souder, Miller and Associates

Project: Ludwick LS #18

Sample ID	MB-16880		SampType:	MBLK		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	PBS		Batch ID:	16880		RunNo:	23233				
Prep Date:	12/17/2014		Analysis Date:	12/18/2014		SeqNo:	686706		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	880		1000		87.7	80	120				

Sample ID	LCS-16880		SampType:	LCS		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	LCSS		Batch ID:	16880		RunNo:	23233				
Prep Date:	12/17/2014		Analysis Date:	12/18/2014		SeqNo:	686707		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	22	5.0	25.00	0	89.3	65.8	139				
Surr: BFB	1000		1000		102	80	120				

Sample ID	5ML RB		SampType:	MBLK		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	PBS		Batch ID:	R23228		RunNo:	23228				
Prep Date:			Analysis Date:	12/18/2014		SeqNo:	686751		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	940		1000		93.6	80	120				

Sample ID	2.5UG GRO LCS		SampType:	LCS		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	LCSS		Batch ID:	R23228		RunNo:	23228				
Prep Date:			Analysis Date:	12/18/2014		SeqNo:	686752		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.4	65.8	139				
Surr: BFB	900		1000		90.0	80	120				

Sample ID	1412894-001AMS		SampType:	MS		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	SC-16 S. Center Wal		Batch ID:	R23228		RunNo:	23228				
Prep Date:			Analysis Date:	12/18/2014		SeqNo:	686754		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	23	4.6	22.81	0	103	47.9	144				
Surr: BFB	1100		912.4		118	80	120				

Sample ID	1412894-001AMSD		SampType:	MSD		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	SC-16 S. Center Wal		Batch ID:	R23228		RunNo:	23228				
Prep Date:			Analysis Date:	12/18/2014		SeqNo:	686755		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412894

19-Dec-14

Client: Souder, Miller and Associates

Project: Ludwick LS #18

Sample ID: 1412894-001AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SC-16 S. Center Wal	Batch ID: R23228	RunNo: 23228								
Prep Date:	Analysis Date: 12/18/2014	SeqNo: 686755	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.6	22.81	0	99.7	47.9	144	3.24	29.9	
Surr: BFB	1100		912.4		118	80	120	0	0	

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412894

19-Dec-14

**Client:** Souder, Miller and Associates

**Project:** Ludwick LS #18

Sample ID <b>MB-16880</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>16880</b>		RunNo: <b>23233</b>							
Prep Date: <b>12/17/2014</b>	Analysis Date: <b>12/18/2014</b>		SeqNo: <b>686727</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.92		1.000		92.1	80	120			

Sample ID <b>LCS-16880</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>16880</b>		RunNo: <b>23233</b>							
Prep Date: <b>12/17/2014</b>	Analysis Date: <b>12/18/2014</b>		SeqNo: <b>686728</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.050	1.000	0	98.3	80	120			
Toluene	0.95	0.050	1.000	0	95.0	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.8	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.1	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID <b>5ML RB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>R23228</b>		RunNo: <b>23228</b>							
Prep Date:	Analysis Date: <b>12/18/2014</b>		SeqNo: <b>686791</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

Sample ID <b>100NG BTEX LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>R23228</b>		RunNo: <b>23228</b>							
Prep Date:	Analysis Date: <b>12/18/2014</b>		SeqNo: <b>686792</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	102	80	120			
Toluene	1.0	0.050	1.000	0	103	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1412894

RcptNo: 1

Received by/date:		12/18/14
Logged By:	Ashley Gallegos	12/18/2014 8:00:00 AM 
Completed By:	Ashley Gallegos	12/18/2014 8:49:21 AM 
Reviewed By:		12/18/14

**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:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

17. Additional remarks:

**18. Cooler Information**

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

# Chain-of-Custody Record

Turn-Around Time:

Standard  Rush Same Day

Project Name:

Ludwick LS #18

Project #:

5122855 BGC5

Project Manager:

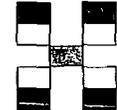
Steve Maskal

Sampler: 11 11

On Ice:  Yes  No

Sample Temperature: 1.0

HEAL No: 1410894



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

### Analysis Request

Client: SMA

Mailing Address: 401 W. Broadway

Farmington, NM 87401

Phone #: 505 325 7535

Email or Fax #: steve.maskal@hallmiller.com

VOC Package:  
 Standard  Level 4 (Full Validation)

Creditation:  
 NELAP  Other \_\_\_\_\_

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	<del>BTEX + MTBE + TPB's (8021)</del>	<del>BTEX + MTBE + TPH (Gas only)</del>	<del>TPH 8015B (GRO / DRO / MPO)</del>	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
12/17/14	1502	Soil/MSH	SC-16 S. center wall @ 0-12'	412 x 1 / MSH	MSH	-001	↓	↓	↓									
	1503		SC-8 NE wall @ 0-5'			-002												
	1504		SC-9 E wall @ 0-5'			-003												
	1505		SC-10 SE wall @ 0-5'			-004												
	1510		SC-7 E Base @ 6'			-005												
	1512		SC-11 SW wall @ 0-5'			-006												
	1513		SC-12 W wall @ 0-5'			-007												
	1514		SC-13 NW wall @ 0-5'			-008												
	1515		SC-6 W. Base @ 6'			-009												

Date: 12/17/14 Time: 1615 Relinquished by: [Signature] Received by: Ch. Walte Date: 12/17/14 Time: 1615

Date: 12/18/14 Time: 0800 Relinquished by: Christine Walte Received by: [Signature] Date: 12/18/14 Time: 0800

Remarks: Invoice to Enterprise Products  
Copy alicia.patterson@scudermiller.com

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



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

December 22, 2014

Steve Moskal  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX

RE: Ludwick LS #18

OrderNo.: 1412968

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 5 sample(s) on 12/19/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates      Client Sample ID: SC-21 S Central Wall @ 0-20'  
 Project: Ludwick LS #18      Collection Date: 12/18/2014 4:00:00 PM  
 Lab ID: 1412968-001      Matrix: SOIL      Received Date: 12/19/2014 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/19/2014 10:28:52 AM	16909
Surr: DNOP	89.9	63.5-128		%REC	1	12/19/2014 10:28:52 AM	16909
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	12/19/2014 9:46:57 AM	16905
Surr: BFB	92.4	80-120		%REC	1	12/19/2014 9:46:57 AM	16905
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.035		mg/Kg	1	12/19/2014 9:46:57 AM	16905
Toluene	ND	0.035		mg/Kg	1	12/19/2014 9:46:57 AM	16905
Ethylbenzene	ND	0.035		mg/Kg	1	12/19/2014 9:46:57 AM	16905
Xylenes, Total	ND	0.069		mg/Kg	1	12/19/2014 9:46:57 AM	16905
Surr: 4-Bromofluorobenzene	96.4	80-120		%REC	1	12/19/2014 9:46:57 AM	16905

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

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E	Value above quantitation range	H Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates  
 Project: Ludwick LS #18  
 Lab ID: 1412968-002

Client Sample ID: SC-22 W Central Wall @ 20'  
 Collection Date: 12/18/2014 4:02:00 PM  
 Received Date: 12/19/2014 7:30:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	11		mg/Kg	1	12/19/2014 10:59:47 AM	16909
Surr: DNOP	89.0	63.5-128		%REC	1	12/19/2014 10:59:47 AM	16909
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	12/19/2014 10:15:39 AM	16905
Surr: BFB	92.6	80-120		%REC	1	12/19/2014 10:15:39 AM	16905
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	12/19/2014 10:15:39 AM	16905
Toluene	ND	0.032		mg/Kg	1	12/19/2014 10:15:39 AM	16905
Ethylbenzene	ND	0.032		mg/Kg	1	12/19/2014 10:15:39 AM	16905
Xylenes, Total	0.083	0.063		mg/Kg	1	12/19/2014 10:15:39 AM	16905
Surr: 4-Bromofluorobenzene	98.2	80-120		%REC	1	12/19/2014 10:15:39 AM	16905

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

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E	Value above quantitation range	H Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-23 Central Base @ 20'

Project: Ludwick LS #18

Collection Date: 12/18/2014 4:05:00 PM

Lab ID: 1412968-003

Matrix: SOIL

Received Date: 12/19/2014 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/19/2014 9:35:15 AM	16909
Surr: DNOP	81.3	63.5-128		%REC	1	12/19/2014 9:35:15 AM	16909
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	6.7	3.7		mg/Kg	1	12/19/2014 10:44:18 AM	16905
Surr: BFB	118	80-120		%REC	1	12/19/2014 10:44:18 AM	16905
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.037		mg/Kg	1	12/19/2014 10:44:18 AM	16905
Toluene	ND	0.037		mg/Kg	1	12/19/2014 10:44:18 AM	16905
Ethylbenzene	ND	0.037		mg/Kg	1	12/19/2014 10:44:18 AM	16905
Xylenes, Total	0.23	0.075		mg/Kg	1	12/19/2014 10:44:18 AM	16905
Surr: 4-Bromofluorobenzene	99.5	80-120		%REC	1	12/19/2014 10:44:18 AM	16905

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

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E	Value above quantitation range	H Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates      Client Sample ID: SC-24 N Central Wall @ 0-20'  
 Project: Ludwick LS #18      Collection Date: 12/18/2014 4:08:00 PM  
 Lab ID: 1412968-004      Matrix: SOIL      Received Date: 12/19/2014 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/19/2014 9:56:56 AM	16909
Surr: DNOP	77.6	63.5-128		%REC	1	12/19/2014 9:56:56 AM	16909
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	12/19/2014 11:12:57 AM	16905
Surr: BFB	93.8	80-120		%REC	1	12/19/2014 11:12:57 AM	16905
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	12/19/2014 11:12:57 AM	16905
Toluene	0.052	0.034		mg/Kg	1	12/19/2014 11:12:57 AM	16905
Ethylbenzene	ND	0.034		mg/Kg	1	12/19/2014 11:12:57 AM	16905
Xylenes, Total	0.087	0.067		mg/Kg	1	12/19/2014 11:12:57 AM	16905
Surr: 4-Bromofluorobenzene	97.8	80-120		%REC	1	12/19/2014 11:12:57 AM	16905

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates  
**Project:** Ludwick LS #18  
**Lab ID:** 1412968-005

**Client Sample ID:** SC-25 E Central Wall @ 0-20'  
**Collection Date:** 12/18/2014 4:10:00 PM  
**Received Date:** 12/19/2014 7:30:00 AM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/19/2014 10:18:16 AM	16909
Surr: DNOP	74.8	63.5-128		%REC	1	12/19/2014 10:18:16 AM	16909
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	12/19/2014 11:41:33 AM	16905
Surr: BFB	91.3	80-120		%REC	1	12/19/2014 11:41:33 AM	16905
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	12/19/2014 11:41:33 AM	16905
Toluene	ND	0.034		mg/Kg	1	12/19/2014 11:41:33 AM	16905
Ethylbenzene	ND	0.034		mg/Kg	1	12/19/2014 11:41:33 AM	16905
Xylenes, Total	ND	0.068		mg/Kg	1	12/19/2014 11:41:33 AM	16905
Surr: 4-Bromofluorobenzene	95.2	80-120		%REC	1	12/19/2014 11:41:33 AM	16905

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 5 of 8
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412968

22-Dec-14

Client: Souder, Miller and Associates

Project: Ludwick LS #18

Sample ID	<b>MB-16909</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>16909</b>	RunNo:	<b>23253</b>					
Prep Date:	<b>12/18/2014</b>	Analysis Date:	<b>12/19/2014</b>	SeqNo:	<b>687155</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	7.1		10.00		70.6	63.5	128			

Sample ID	<b>LCS-16909</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>16909</b>	RunNo:	<b>23253</b>					
Prep Date:	<b>12/18/2014</b>	Analysis Date:	<b>12/19/2014</b>	SeqNo:	<b>687156</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	10	50.00	0	121	68.6	130			
Surr: DNOP	4.6		5.000		92.9	63.5	128			

Sample ID	<b>MB-16900</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>16900</b>	RunNo:	<b>23253</b>					
Prep Date:	<b>12/18/2014</b>	Analysis Date:	<b>12/19/2014</b>	SeqNo:	<b>687462</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.8		10.00		78.2	63.5	128			

Sample ID	<b>LCS-16900</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>16900</b>	RunNo:	<b>23246</b>					
Prep Date:	<b>12/18/2014</b>	Analysis Date:	<b>12/19/2014</b>	SeqNo:	<b>688230</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.1		5.000		82.6	63.5	128			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412968

22-Dec-14

Client: Souder, Miller and Associates

Project: Ludwick LS #18

Sample ID	MB-16905	SampType	MBLK	TestCode	EPA Method 8015D: Gasoline Range					
Client ID	PBS	Batch ID	16905	RunNo	23264					
Prep Date	12/18/2014	Analysis Date	12/19/2014	SeqNo	687905	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	890		1000		88.7	80	120			

Sample ID	LCS-16905	SampType	LCS	TestCode	EPA Method 8015D: Gasoline Range					
Client ID	LCSS	Batch ID	16905	RunNo	23264					
Prep Date	12/18/2014	Analysis Date	12/19/2014	SeqNo	687906	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.6	65.8	139			
Surr: BFB	1000		1000		101	80	120			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412968

22-Dec-14

Client: Souder, Miller and Associates

Project: Ludwick LS #18

Sample ID	MB-16905	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	16905	RunNo:	23264					
Prep Date:	12/18/2014	Analysis Date:	12/19/2014	SeqNo:	688012	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.92		1.000		91.8	80	120			

Sample ID	LCS-16905	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	16905	RunNo:	23264					
Prep Date:	12/18/2014	Analysis Date:	12/19/2014	SeqNo:	688013	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.050	1.000	0	98.0	80	120			
Toluene	0.95	0.050	1.000	0	95.1	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.8	80	120			
Xylenes, Total	2.9	0.10	3.000	0	98.0	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1412968

RcptNo: 1

Received by/date: AT 12/18/14

Logged By: **Anne Thorne** 12/19/2014 7:30:00 AM *Anne Thorne*

Completed By: **Anne Thorne** 12/19/2014 *Anne Thorne*

Reviewed By: *MJ* 12/19/14

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

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

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

17. Additional remarks: RLV Sm SC-22 W Central Wall 220' is sample 1D

**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			<i>AT 12/19/14</i>

# CHAIN-OF-CUSTODY RECORD

Client:

SMA

Standard

Rush Same Day

Mailing Address: 401 W Broadway

Farming, NM 87401

Phone #: 505 325 7535

Project Name: Ludwick LGS #18

email or Fax#: ~~505 325 7535~~ Steven.Moskal

Project Manager: 5122955

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

Accreditation:  NELAP  Other

Sampler: Steve Moskal

EDD (Type)

On Ice:  Yes  No

Sample Temperature: 1.6

Date: Time: Matrix: Sample Request ID

1/18 1600 501 SC-21 S. central wall @ 0-20' AT 12/19/14

1602 SC-22 W. central wall @ 0-20'

1605 SC-23 central Base @ 20'

1608 SC-24 W. central wall @ 0-20'

1610 SC-25 E. central wall @ 0-20'

Container Type and #

Preservative Type

HEAL No.

Date: Time

Relinquished by:

Received by:

Date: Time

Remarks:

Invoice Enterprise

copy Alicia. Pederson@sandsmill.com

12/18/14 1800

12/18/14 0730

PHS

12/18/14 1800

PHS

12/18/14 0730

PHS

**HALL ENVIRONMENTAL ANALYSIS LABORATORY**  
 www.hallenvironmental.com  
 4901 Hawkins NE - Albuquerque, NM 87109  
 Tel: 505-345-3975 Fax: 505-345-4107  
**Analysis Request**

<input type="checkbox"/>	BTEX + MTBE + TPH (Gas only)
<input checked="" type="checkbox"/>	TPH 8015B (GRO / DRO) / <del>MTBE</del>
<input type="checkbox"/>	TPH (Method 418.1)
<input type="checkbox"/>	EDB (Method 504.1)
<input type="checkbox"/>	PAH's (8310 or 8270 SIMS)
<input type="checkbox"/>	RCRA 8 Metals
<input type="checkbox"/>	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )
<input type="checkbox"/>	8081 Pesticides / 8082 PCB's
<input type="checkbox"/>	8260B (VOA)
<input type="checkbox"/>	8270 (Semi-VOA)
<input type="checkbox"/>	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.

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

RECEIVED

MAR 09 2015

NMOCD

Form C-141  
Revised August 8, 2011

Submit 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: Santa Rosa 8#2 Release Site	Facility Type: Natural Gas Gathering Line
Surface Owner: BLM	Mineral Owner: BLM
API No.	

**LOCATION OF RELEASE**

Unit Letter <b>N</b>	Section <b>8</b>	Township <b>29N</b>	Range <b>9W</b>	Feet from the <b>1169</b>	North Line <b>South</b>	Feet from the <b>2123</b>	East Line <b>West</b>	County <b>San Juan</b>
-------------------------	---------------------	------------------------	--------------------	---------------------------------	-------------------------------	---------------------------------	-----------------------------	---------------------------

Latitude 36.735596 Longitude -107.803623

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release <b>35.78 MCF Gas; 5-10 BBLs Fluids</b>	Volume Recovered: <b>None</b>
Source of Release: Internal Corrosion	Date and Hour of Occurrence: <b>12/30/2014 @ 8:12 a.m.</b>	Date and Hour of Discovery: <b>12/30/2014 @ 10:12 p.m.</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy to NMOCD - Cory Smith and BLM - Shari Ketcham	
By Whom? <b>Thomas Long</b>	Date and Hour <b>1/5/2015 @ 3:15 p.m.</b>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action: On December 30, 2014, Enterprise technicians confirmed a leak on the Santa Rosa 8#2 pipeline. The line was isolated and de-pressurized and lock out tag out was applied. An area of soil staining or approximately four (4) feet by four (4) feet was observed on the ground surface. A third party environmental contractor oversaw excavation activities and collected closure samples during repair activities.

Describe Area Affected and Cleanup Action On December 30, 2014, Enterprise technicians confirmed a leak on the Santa Rosa 8#2 pipeline. The line was isolated and de-pressurized and lock out tag out was applied. An area of soil staining or approximately four (4) feet by four (4) feet was observed on the ground surface. Repairs and remediation were completed on January 12, 2015. The final excavation dimensions measured approximately sixty-five (65) feet long by ranging from six (6) to forty-nine (49) feet wide ranging from six (6) to twelve (12) feet deep. Approximately 196 cubic yards of hydrocarbon impacted soil was excavated and transported to a NMOCD approved land farm facility. A third party corrective action report is included with this "Final" C-141.

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

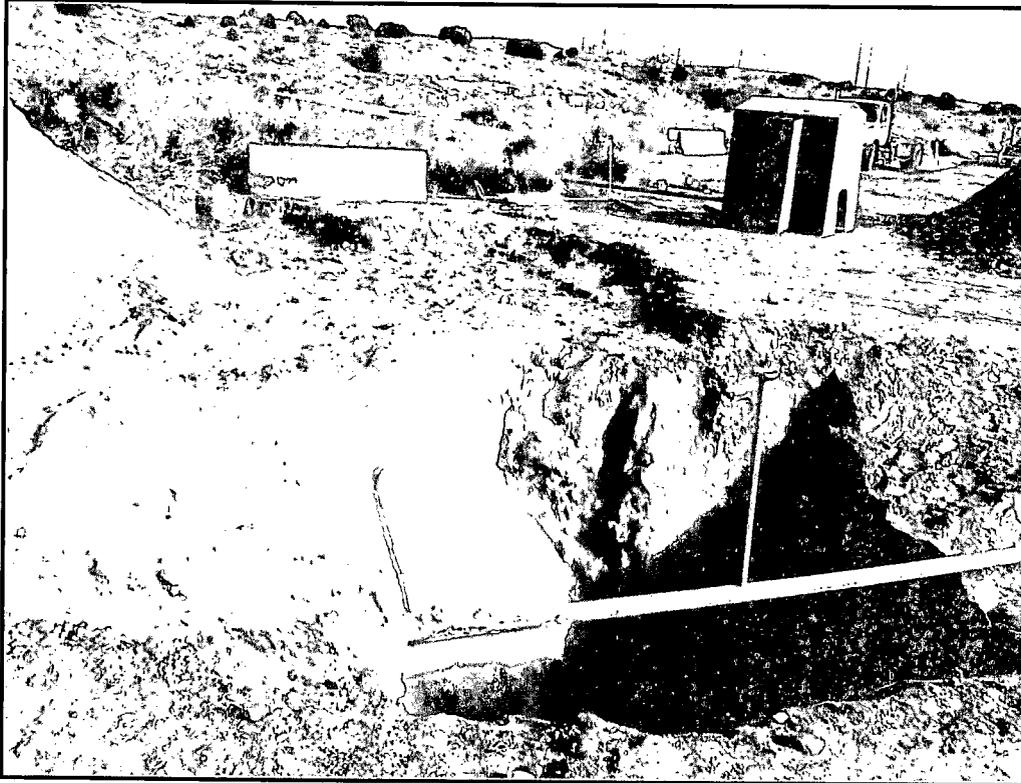
Signature: <i>Jon Fields</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: <u>4/30/15</u>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	
Date: <u>2/26/2015</u> Phone: (713)381-6684	Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

# NCS 1512033866

35

**Enterprise Products  
Santa Rosa 8 #2 Pipeline Release  
Latitude North 36.735596°, Longitude West -107.803633°  
SE/SW (Unit N), Section 8, T29N, R9W  
San Juan County, New Mexico  
February 5, 2015**



**Submitted To:**  
Enterprise Products  
Field Environmental-San Juan Basin  
614 Reilly Avenue  
Farmington, NM 87401

**Submitted By:**  
Souder, Miller & Associates  
401 West Broadway  
Farmington, NM 87401  
(505)325-7535



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Appendix B: Soil Disposal Documentation

Appendix C: Laboratory Analytical Reports

## 1.0 Executive Summary

From January 8 through January 12, 2015, Souder, Miller & Associates (SMA) responded to oversee the excavation of the hydrocarbon release associated with the Santa Rosa 8 #2 natural gas well pipeline tie. The release was initially reported on December 30, 2014 and is a result of a freeze and internal corrosion of the four-inch natural gas pipeline. The table below summarizes information about the pipeline remediation activities.

TABLE 1: RELEASE INFORMATION					
Name	Santa Rosa 8 #2 Pipeline Release				
Location	Latitude/Longitude		Section, Township, Range		
	36.735596°	-107.803633°	SE/SW (Unit N)	Section 8	T 29N, R 9W
Date Reported	December 30, 2014				
Reported to	Tom Long				
Land Owner	Bureau of Land Management (BLM)				
Reported To	NM Oil Conservation Division (NMOCD) and BLM				
Diameter of Pipeline	4 inches				
Source of Release	Freeze/Internal Corrosion				
Release Contents	Natural Gas Liquids/Condensate				
Release Volume	Unknown				
Nearest Waterway	Located within 240' of an unnamed tributary associated with the San Juan River.				
Depth to Groundwater	Estimated to be less than 50 feet				
Nearest Domestic Water Source	Greater than 1,000 feet				
NMOCD Ranking	30				
SMA Response Dates	1/8-1/12/2015				
Subcontractors	Halo Services				
Disposal Facility	Envirotech				
Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	196 (Reported on Completed C-138)				

## 2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes remediation of a hydrocarbon release associated with the Santa Rosa 8 #2 pipeline release site. The site is located in SE/SW (Unit N), Section 8, T29N, R9W, 36.735596°, -107.803633°, San Juan County, New Mexico, on land owned by the BLM. Figure 1 illustrates the vicinity and location of the site.

## 3.0 Site Ranking and Land Jurisdiction

The release site is in an unnamed tributary of the San Juan River, in an area owned by the BLM with an elevation of approximately 5,630 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be less than 50

---

feet below ground surface (bgs). Figure 1 depicts the site vicinity and Figure 2 depicts the site location.

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No wells were located within 1,000 feet and eighteen wells were found within a one mile radius of the site. The physical location of this release is within the jurisdiction of BLM and NMOCD.

This release location has been assigned a NMOCD ranking of 30 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 100 ppm total petroleum hydrocarbons (TPH). Table 2 illustrates site ranking rationale.

#### **4.0 Summary of Field Activities**

On January 8, 2015, SMA responded to a hydrocarbon release associated with the Santa Rosa 8 #2 well tie, where excavation for pipeline repairs had already begun. Visual observation determined the pipeline release originated from the base of the meter house pipeline riser and surfaced at the end of the meter run. The liquids from the pipeline release then flowed across the ground surface to the north approximately 40 feet. The soil was frozen from the surface to approximately 2 feet bgs.

SMA returned to the site on January 9 and 12, 2015 to oversee and guide excavation of the pipeline during repair and remediation activities. SMA guided the excavation activities by collecting composite soil samples for field screening with a calibrated photo-ionization detector (PID). A single release point was found on the tee of the meter house riser. The approximate location of the release point is depicted on Figure 2.

The final excavation measured approximately 65 feet long by 6 to 49 feet wide with depths of 6 to 12 feet, covering an area of approximately 1,180 square feet. Included is a 45 foot by 6 foot section with a depth of approximately 6 feet that was advanced solely for pipeline repair purposes. A detailed excavation map is enclosed as Figure 3. Field screening and laboratory results indicated that soils from the main excavation and the northern excavation impacted by surface flows were not suitable as backfill material. In total approximately 196 cubic yards of contaminated soil was removed and replaced with clean backfill material. The contaminated soil was transported to Envirotech Landfarm, near Bloomfield, NM. Soil disposal documentation is included in Appendix B.

A total of nine soil samples were submitted for confirmation laboratory analysis per United States Environmental Protection Agency Methods: 8021 for benzene, toluene, ethylbenzene, and xylenes (BTEX) and 8015 for diesel and gasoline range organics (DRO/GRO). All samples were analyzed by Hall Environmental Analytical Laboratory in Albuquerque, New Mexico. Figure 3 illustrates the release point, the extent of the excavation, laboratory soil sample locations, and laboratory results.

---

## 5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 30: 10 ppm (mg/kg) benzene, 50 ppm total BTEX, and 100 ppm TPH.

Laboratory analytical results for all samples collected were below NMOCD Guidelines for benzene (10 ppm), BTEX (50 ppm) and combined GRO/DRO (100 ppm). All sample analytes were below laboratory detection limits.

Soil contaminant concentrations are illustrated in Figure 3. A summary of laboratory analysis is included in Table 3. Laboratory reports are included in Appendix C.

SMA recommends no further action at the Santa Rosa 8 #2 pipeline release location.

## 6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, oversight and control of remediation operations, disposal arrangements and documentation, project management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas pipeline releases in the San Juan Basin in New Mexico.

If there are any questions regarding this report, please contact either Steve Moskal or Reid Allan at 505-325-7535.

Submitted by:

Reviewed by:

SOUDER, MILLER & ASSOCIATES

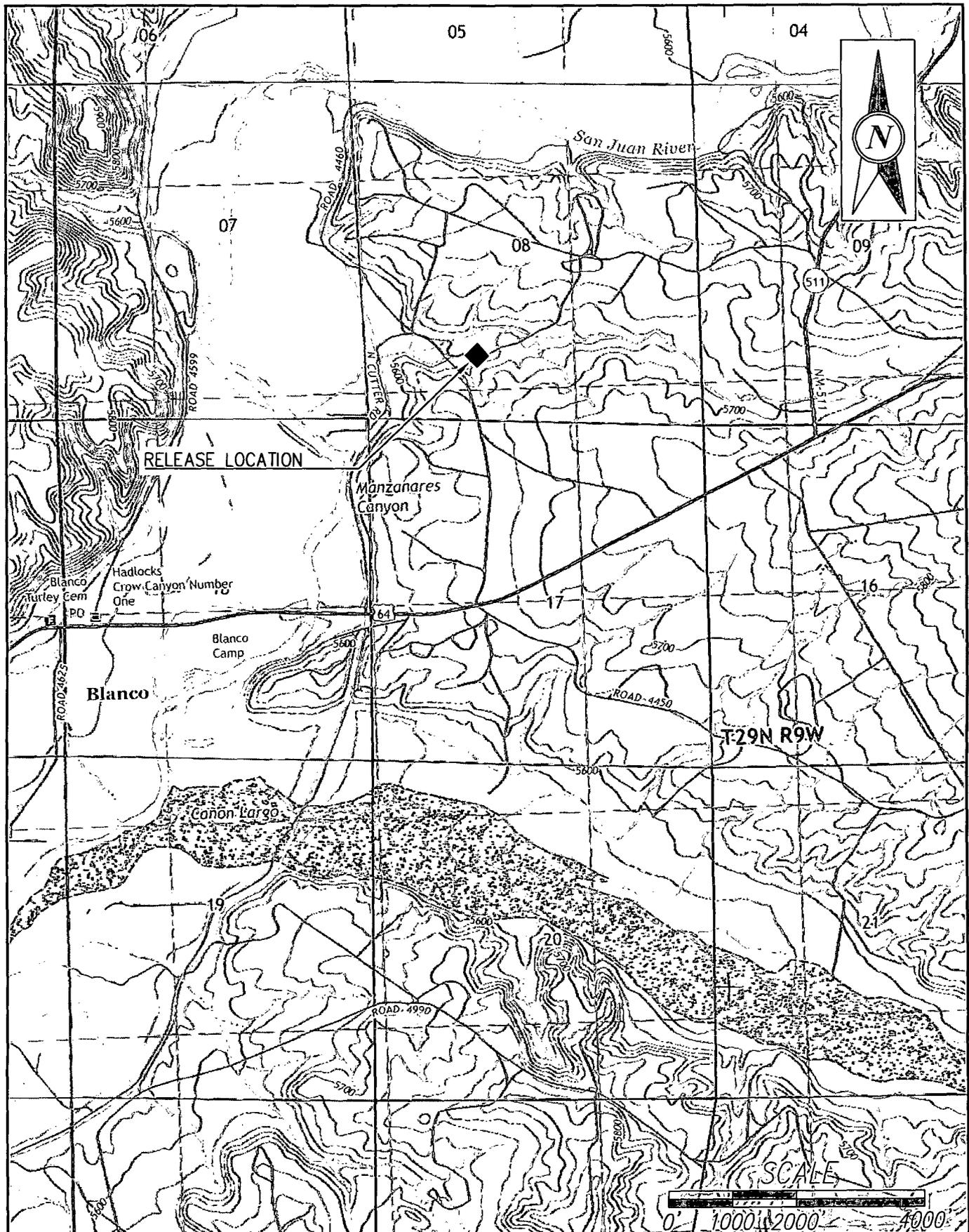


Steve Moskal  
Project Scientist



Reid Allan, P.G.  
Vice President/Principal Scientist

## Figures



 <p><b>SMA</b> Engineering Environmental Surveying</p>	<p><b>SOUDER, MILLER &amp; ASSOCIATES</b> 401 West Broadway Avenue Farmington, NM 87401-5907 Phone (505) 335-7535 Toll-Free (800) 519-0098 Fax (505) 326-0945 www.soudermiller.com Serving the Southwest &amp; Rocky Mountains Albuquerque, Carlsbad, Farmington, Las Cruces, Roswell, Santa Fe, NM - El Paso, TX Concepcion - Grand Junction - Montrose, CO - Safford, AZ - Moab, UT</p>	<p>ENTERPRISE FARMINGTON, NEW MEXICO</p>	<table border="1"> <tr> <td>Designed SM</td> <td>Drawn DJB</td> <td>Checked RSA</td> </tr> <tr> <td colspan="3">Date: FEBRUARY 5, 2015</td> </tr> <tr> <td colspan="3">Scale: Horiz: 1" = 2000' Vert: NA</td> </tr> <tr> <td colspan="3">Project No: 5123699</td> </tr> <tr> <td colspan="3">Sheet: 1</td> </tr> </table>	Designed SM	Drawn DJB	Checked RSA	Date: FEBRUARY 5, 2015			Scale: Horiz: 1" = 2000' Vert: NA			Project No: 5123699			Sheet: 1		
	Designed SM	Drawn DJB	Checked RSA															
	Date: FEBRUARY 5, 2015																	
	Scale: Horiz: 1" = 2000' Vert: NA																	
Project No: 5123699																		
Sheet: 1																		
<p>VICINITY MAP SANTA ROSA 8 #2 SECTION 8, T29N, R9W</p>																		
<p>SAN JUAN COUNTY, NEW MEXICO</p>																		
<p><small>THIS DRAWING IS THE PROPERTY OF SMA AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.</small></p>																		



**SOUDER, MILLER & ASSOCIATES**  
 401 West Broadway Avenue  
 Farmington, NM 87401-5907  
 Phone: (505) 325-7535 Toll-Free (800) 519-6698 Fax: (505) 326-0045  
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ENTERPRISE

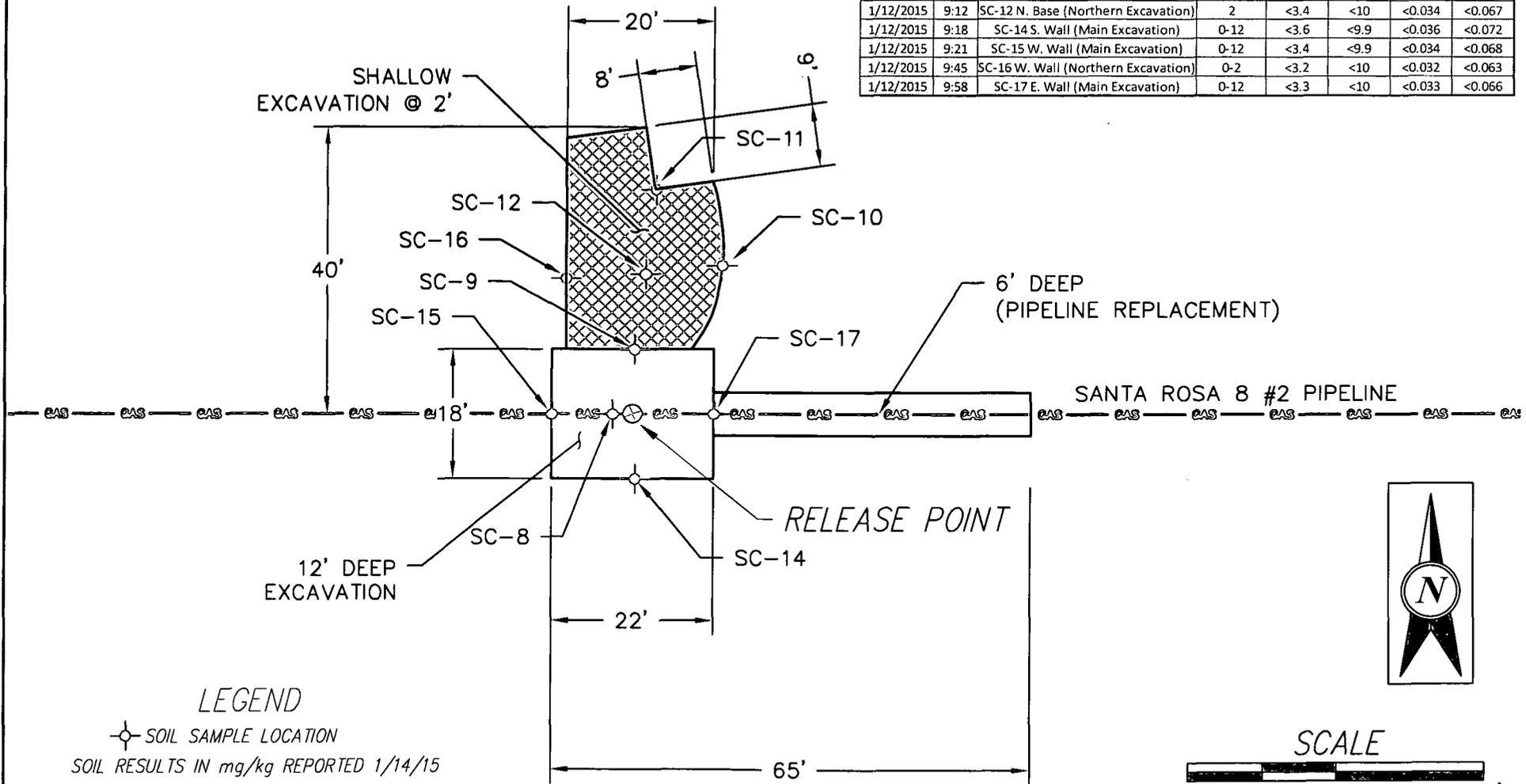
FARMINGTON, NEW MEXICO

**SITE LOCATION MAP**  
**SANTA ROSA 8 #2**  
**SECTION 8, T29N, R9W**

SAN JUAN COUNTY, NEW MEXICO

Designated SM	Drawn DJB	Checked RSA
Date: FEBRUARY 5, 2015		
Scale: Horiz: 1"=40' Vert: N/A		
Project No: 5123699		
Sheet: 2		

Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines			NMOCD Site Ranking: 30		100 ppm	10 ppm	50 ppm
1/12/2015	8:50	SC-8 S. Base (Main Excavation)	12	<3.5	<10	<0.035	<0.069
1/12/2015	8:54	SC-9 N. Wall (Main Excavation)	0-12	<3.4	<9.9	<0.034	<0.068
1/12/2015	9:08	SC-10 E. Wall (Main Excavation)	0-12	<2.9	<9.9	<0.029	<0.057
1/12/2015	9:10	SC-11 N. Wall (Northern Excavation)	0-2	<2.8	<10	<0.028	<0.056
1/12/2015	9:12	SC-12 N. Base (Northern Excavation)	2	<3.4	<10	<0.034	<0.067
1/12/2015	9:18	SC-14 S. Wall (Main Excavation)	0-12	<3.6	<9.9	<0.036	<0.072
1/12/2015	9:21	SC-15 W. Wall (Main Excavation)	0-12	<3.4	<9.9	<0.034	<0.068
1/12/2015	9:45	SC-16 W. Wall (Northern Excavation)	0-2	<3.2	<10	<0.032	<0.063
1/12/2015	9:58	SC-17 E. Wall (Main Excavation)	0-12	<3.3	<10	<0.033	<0.066



**LEGEND**  
 SOIL SAMPLE LOCATION  
 SOIL RESULTS IN mg/kg REPORTED 1/14/15





**SOUDER, MILLER & ASSOCIATES**  
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 Farmington, NM 87401-5907  
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ENTERPRISE  
 FARMINGTON, NEW MEXICO  
 SAN JUAN COUNTY, NEW MEXICO

**SOIL CONTAMINANT CONCENTRATION MAP**  
 SANTA ROSA 8 #2  
 SECTION 8, T29N, R9W

Designed SM	Drawn DJB	Checked RSA
Date: FEBRUARY 5, 2015		
Scale: Horiz: 1"=20'		
Vert: N/A		
Project No: 5123699		
Sheet: 3		

## **Tables**

Enterprise Products  
Table 2: Site Ranking

Santa Rosa 8 #2  
Pipeline Release  
2/5/2015

Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20	20	Verified using Topographic Maps and Google Earth	Approximately 24 feet to groundwater reported in a well log located approximately 1900 feet NW of the release site (POD# SJ 03534)
50' to 99' = 10			
>100' = 0			
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20	10	Verified using Topographic Maps and Google Earth	Approximately 240 feet south of an unnamed tributary wash of the San Juan River.
200' - 1000' = 10			
>1000' = 0			
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200' from a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	Accesse NMOSE WRRS database to find one well within 1,500 feet.	One well found in the NW 1/4 of SW 1/4 of S8, T29N, R9W
<b>Total Site Ranking</b>	<b>30</b>		
Soil Remedation Standards	0 to 9	10 to 19	>19
<b>Benzene</b>	10 PPM	10 PPM	<b>10 PPM</b>
<b>BTEX</b>	50 PPM	50 PPM	<b>50 PPM</b>
<b>TPH</b>	5000 PPM	1000 PPM	<b>100 PPM</b>



Enterprise Products  
 Table 3: Summary of Laboratory Analysis  
 Results in mg/Kg

Santa Rosa 8 #2  
 Pipeline Release  
 2/5/2015

Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 30		100 ppm		10 ppm	50 ppm
1/12/2015	8:50	SC-8 S. Base (Main Excavation)	12	<3.5	<10	<0.035	<0.069
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1/12/2015	9:21	SC-15 W. Wall (Main Excavation)	0-12	<3.4	<9.9	<0.034	<0.068
1/12/2015	9:45	SC-16 W. Wall (Northern Excavation)	0-2	<3.2	<10	<0.032	<0.063
1/12/2015	9:58	SC-17 E. Wall (Main Excavation)	0-12	<3.3	<10	<0.033	<0.066



**Appendix A**  
**Photographic Documentation**

Site Photographs  
Enterprise Products Santa Rosa 8 #2 Pipeline Release

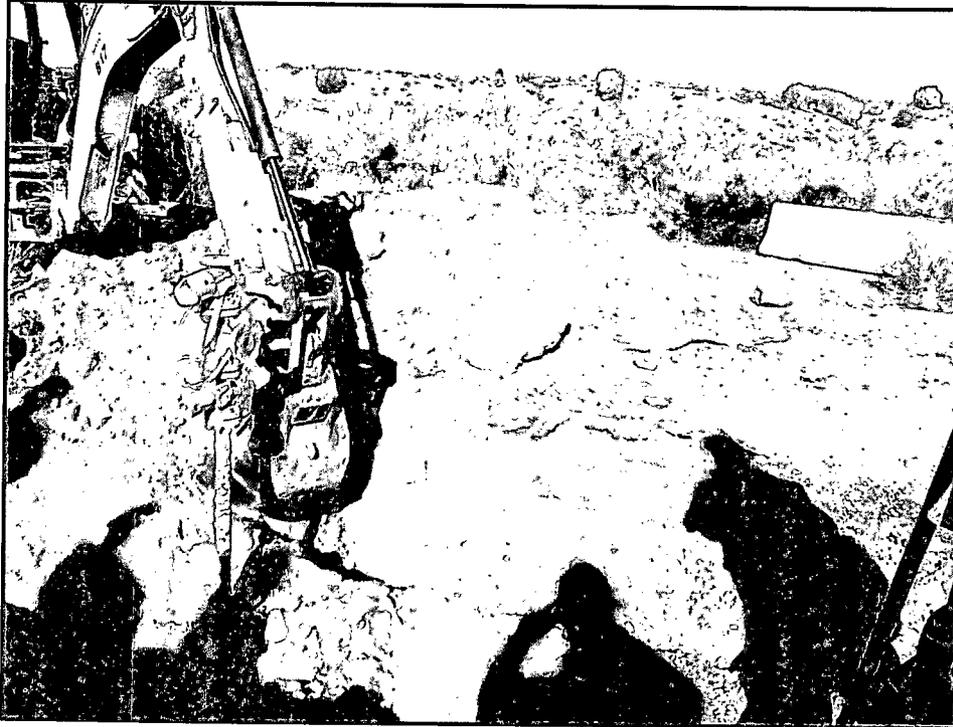


Photo 1: The initial excavation to expose the Santa Rosa 8 #2 release point.



Photo 2: The release point of the Santa rosa 8 #2 pipeline release was a broken weld associated with internal corrosion and likely failed due to freezing.

**Site Photographs**  
**Enterprise Products Santa Rosa 8 #2 Pipeline Release**

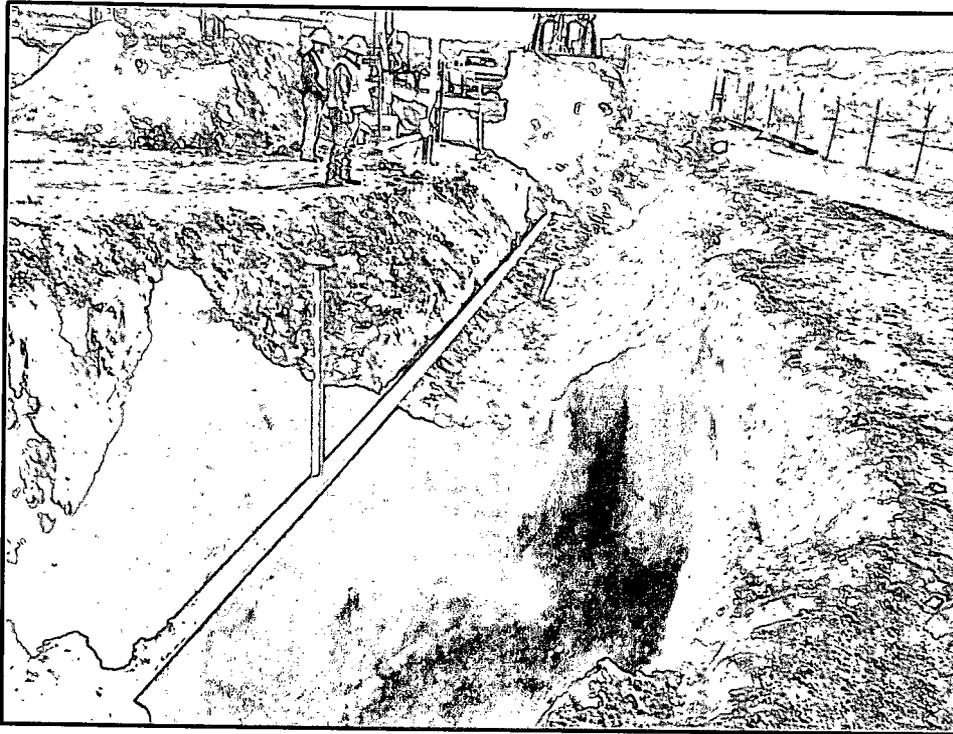


Photo 3: View of the additional excavation advanced solely for pipeline repairs. A 45' section of pipeline was replaced.



Photo 4: The vertical extent of the Santa Rosa 8 #2 main excavation.

Site Photographs  
Enterprise Products Santa Rosa 8 #2 Pipeline Release



Photo 5: The extent of the northern excavation where the surface flows of pipeline liquids occurred.

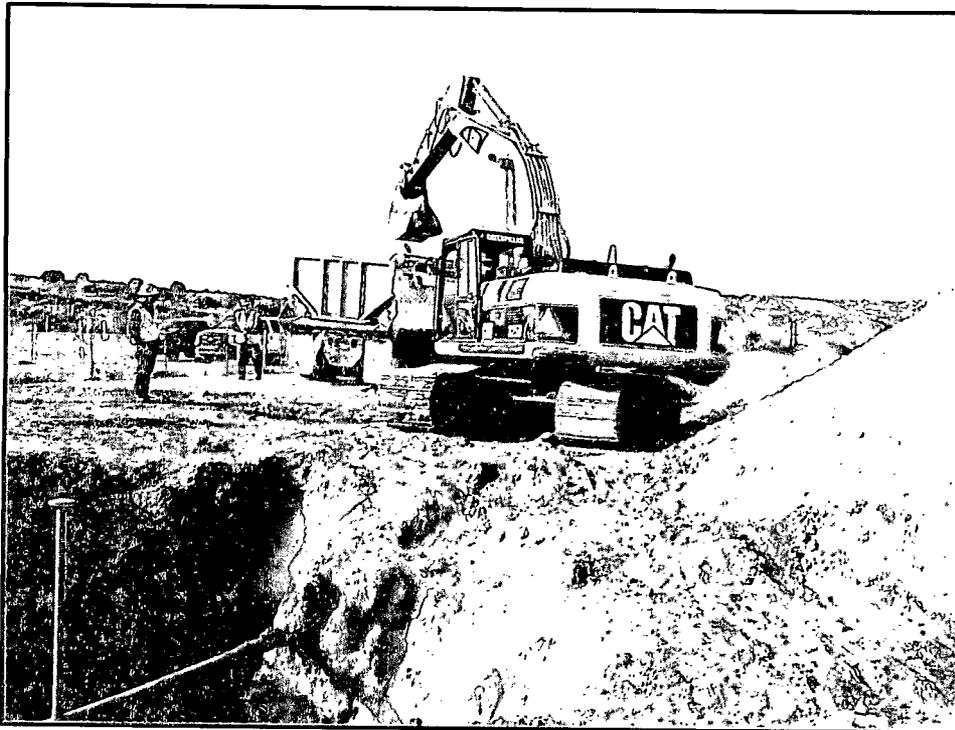


Photo 6: Photo of the excavated soils being exported from the Santa Rosa 8 #2 pipeline release site.

**Appendix B**  
**Soil Disposal Documentation**

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 97057-0680  
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	Jan 2015
2. Originating Site: Santa Rosa 8#2 Pipeline	
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter N, Section 8, T29N, R9W; 36.735596, -107.803623	
4. Source and Description of Waste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline.	
5. Estimated Volume 50 yd <sup>3</sup> bbls Known Volume (to be entered by the operator at the end of the haul) 196 yd <sup>3</sup> bbls	
<b>5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS</b>	
I, <u>Thomas Long</u> representative or authorized agent for <u>Enterprise Field Services, LLC</u> do hereby PRINT & SIGN NAME COMPANY NAME certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)	
<input checked="" type="checkbox"/> RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: <u>Waste Acceptance Frequency</u> <input type="checkbox"/> Monthly <input type="checkbox"/> Weekly <input type="checkbox"/> Per Load	
<input type="checkbox"/> RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)	
<input type="checkbox"/> MSDS Information <input type="checkbox"/> RCRA Hazardous Waste Analysis <input type="checkbox"/> Process Knowledge <input type="checkbox"/> Other (Provide description in Box 4)	
<b>GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS</b>	
I, <u>Thomas Long</u> 1-8-15, representative for <u>Enterprise Field Services, LLC</u> authorize Envirotech, Inc. to Generator Signature complete the required testing/sign the Generator Waste Testing Certification.	
I, <u>Kendra Runnung</u> , representative for <u>Envirotech, Inc.</u> do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.	
6. Transporter: West State Energy Contractors	<u>Riehl Trucking, Lohato</u>

#### OCD Permitted Surface Waste Management Facility

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

Method of Treatment and/or Disposal:

Evaporation  Injection  Treating Plant  Landfarm  Landfill  Other

Waste Acceptance Status:

APPROVED

DENIED (Must Be Maintained As Permanent Record)

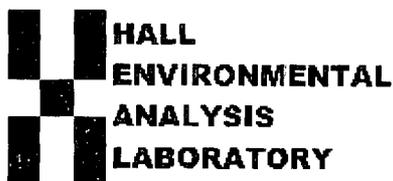
PRINT NAME: Kendra Runnung

TITLE: Waste Coordinator DATE: 1/9/15

SIGNATURE: Kendra Runnung  
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: 505-632-0615

**Appendix C**  
**Laboratory Analytical Reports**



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

January 14, 2015

Steve Moskal

Souder, Miller and Associates

401 W. Broadway

Farmington, NM 87401

TEL: (505) 325-5667

FAX (505) 327-1496

RE: Santa Rosa 8 #2

OrderNo.: 1501380

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 9 sample(s) on 1/13/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-8 S. Base @ 12'

Project: Santa Rosa 8 #2

Collection Date: 1/12/2015 8:50:00 AM

Lab ID: 1501380-001

Matrix: MEOH (SOIL)

Received Date: 1/13/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/14/2015 7:28:02 AM	17189
Surr: DNOP	88.7	63.5-128		%REC	1	1/14/2015 7:28:02 AM	17189
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	1/13/2015 10:02:46 AM	17173
Surr: BFB	98.4	80-120		%REC	1	1/13/2015 10:02:46 AM	17173
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.035		mg/Kg	1	1/13/2015 10:02:46 AM	17173
Toluene	ND	0.035		mg/Kg	1	1/13/2015 10:02:46 AM	17173
Ethylbenzene	ND	0.035		mg/Kg	1	1/13/2015 10:02:46 AM	17173
Xylenes, Total	ND	0.069		mg/Kg	1	1/13/2015 10:02:46 AM	17173
Surr: 4-Bromofluorobenzene	111	80-120		%REC	1	1/13/2015 10:02:46 AM	17173

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

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E	Value above quantitation range	H Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-9 N. Wall @ 0-12'

Project: Santa Rosa 8 #2

Collection Date: 1/12/2015 8:54:00 AM

Lab ID: 1501380-002

Matrix: MEOH (SOIL)

Received Date: 1/13/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/13/2015 11:40:50 AM	17189
Surr: DNOP	117	63.5-128		%REC	1	1/13/2015 11:40:50 AM	17189
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	1/13/2015 10:31:31 AM	17173
Surr: BFB	99.0	80-120		%REC	1	1/13/2015 10:31:31 AM	17173
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	1/13/2015 10:31:31 AM	17173
Toluene	ND	0.034		mg/Kg	1	1/13/2015 10:31:31 AM	17173
Ethylbenzene	ND	0.034		mg/Kg	1	1/13/2015 10:31:31 AM	17173
Xylenes, Total	ND	0.068		mg/Kg	1	1/13/2015 10:31:31 AM	17173
Surr: 4-Bromofluorobenzene	112	80-120		%REC	1	1/13/2015 10:31:31 AM	17173

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates **Client Sample ID:** SC-10 E. Wall @ 0-12'  
**Project:** Santa Rosa 8 #2 **Collection Date:** 1/12/2015 9:08:00 AM  
**Lab ID:** 1501380-003 **Matrix:** MEOH (SOIL) **Received Date:** 1/13/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/13/2015 12:02:27 PM	17189
Surr: DNOP	110	63.5-128		%REC	1	1/13/2015 12:02:27 PM	17189
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.9		mg/Kg	1	1/13/2015 11:00:17 AM	17173
Surr: BFB	103	80-120		%REC	1	1/13/2015 11:00:17 AM	17173
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.029		mg/Kg	1	1/13/2015 11:00:17 AM	17173
Toluene	ND	0.029		mg/Kg	1	1/13/2015 11:00:17 AM	17173
Ethylbenzene	ND	0.029		mg/Kg	1	1/13/2015 11:00:17 AM	17173
Xylenes, Total	ND	0.057		mg/Kg	1	1/13/2015 11:00:17 AM	17173
Surr: 4-Bromofluorobenzene	111	80-120		%REC	1	1/13/2015 11:00:17 AM	17173

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Analytical Report**

Lab Order 1501380

Date Reported: 1/14/2015

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller and Associates**Client Sample ID:** SC-11 N. Wall @ 0-2'**Project:** Santa Rosa 8 #2**Collection Date:** 1/12/2015 9:10:00 AM**Lab ID:** 1501380-004**Matrix:** MEOH (SOIL)**Received Date:** 1/13/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/13/2015 12:23:50 PM	17189
Surr: DNOP	87.5	63.5-128		%REC	1	1/13/2015 12:23:50 PM	17189
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.8		mg/Kg	1	1/13/2015 11:29:00 AM	17173
Surr: BFB	99.2	80-120		%REC	1	1/13/2015 11:29:00 AM	17173
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.028		mg/Kg	1	1/13/2015 11:29:00 AM	17173
Toluene	ND	0.028		mg/Kg	1	1/13/2015 11:29:00 AM	17173
Ethylbenzene	ND	0.028		mg/Kg	1	1/13/2015 11:29:00 AM	17173
Xylenes, Total	ND	0.056		mg/Kg	1	1/13/2015 11:29:00 AM	17173
Surr: 4-Bromofluorobenzene	112	80-120		%REC	1	1/13/2015 11:29:00 AM	17173

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-12 N. Base @ 2'

Project: Santa Rosa 8 #2

Collection Date: 1/12/2015 9:12:00 AM

Lab ID: 1501380-005

Matrix: MEOH (SOIL)

Received Date: 1/13/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/13/2015 12:45:30 PM	17189
Surr: DNOP	94.6	63.5-128		%REC	1	1/13/2015 12:45:30 PM	17189
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	1/13/2015 11:57:41 AM	17173
Surr: BFB	98.2	80-120		%REC	1	1/13/2015 11:57:41 AM	17173
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	1/13/2015 11:57:41 AM	17173
Toluene	ND	0.034		mg/Kg	1	1/13/2015 11:57:41 AM	17173
Ethylbenzene	ND	0.034		mg/Kg	1	1/13/2015 11:57:41 AM	17173
Xylenes, Total	ND	0.067		mg/Kg	1	1/13/2015 11:57:41 AM	17173
Surr: 4-Bromofluorobenzene	111	80-120		%REC	1	1/13/2015 11:57:41 AM	17173

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 5 of 12
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates **Client Sample ID:** SC-14 S. Wall @ 0-12'  
**Project:** Santa Rosa 8 #2 **Collection Date:** 1/12/2015 9:18:00 AM  
**Lab ID:** 1501380-006 **Matrix:** MEOH (SOIL) **Received Date:** 1/13/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/13/2015 1:06:56 PM	17189
Surr: DNOP	96.9	63.5-128		%REC	1	1/13/2015 1:06:56 PM	17189
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	1/13/2015 12:26:29 PM	17173
Surr: BFB	97.5	80-120		%REC	1	1/13/2015 12:26:29 PM	17173
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.036		mg/Kg	1	1/13/2015 12:26:29 PM	17173
Toluene	ND	0.036		mg/Kg	1	1/13/2015 12:26:29 PM	17173
Ethylbenzene	ND	0.036		mg/Kg	1	1/13/2015 12:26:29 PM	17173
Xylenes, Total	ND	0.072		mg/Kg	1	1/13/2015 12:26:29 PM	17173
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	1/13/2015 12:26:29 PM	17173

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 6 of 12
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-15 W. Wall @ 0-12'

Project: Santa Rosa 8 #2

Collection Date: 1/12/2015 9:21:00 AM

Lab ID: 1501380-007

Matrix: MEOH (SOIL)

Received Date: 1/13/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/13/2015 1:35:24 PM	17189
Surr: DNOP	89.0	63.5-128		%REC	1	1/13/2015 1:35:24 PM	17189
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	1/13/2015 12:55:18 PM	17173
Surr: BFB	96.0	80-120		%REC	1	1/13/2015 12:55:18 PM	17173
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	1/13/2015 12:55:18 PM	17173
Toluene	ND	0.034		mg/Kg	1	1/13/2015 12:55:18 PM	17173
Ethylbenzene	ND	0.034		mg/Kg	1	1/13/2015 12:55:18 PM	17173
Xylenes, Total	ND	0.068		mg/Kg	1	1/13/2015 12:55:18 PM	17173
Surr: 4-Bromofluorobenzene	108	80-120		%REC	1	1/13/2015 12:55:18 PM	17173

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-16 W. Wall @ 0-2'

**Project:** Santa Rosa 8 #2

**Collection Date:** 1/12/2015 9:45:00 AM

**Lab ID:** 1501380-008

**Matrix:** MEOH (SOIL)

**Received Date:** 1/13/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/13/2015 1:56:46 PM	17189
Surr: DNOP	94.2	63.5-128		%REC	1	1/13/2015 1:56:46 PM	17189
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	1/13/2015 1:24:03 PM	17173
Surr: BFB	98.3	80-120		%REC	1	1/13/2015 1:24:03 PM	17173
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	1/13/2015 1:24:03 PM	17173
Toluene	ND	0.032		mg/Kg	1	1/13/2015 1:24:03 PM	17173
Ethylbenzene	ND	0.032		mg/Kg	1	1/13/2015 1:24:03 PM	17173
Xylenes, Total	ND	0.063		mg/Kg	1	1/13/2015 1:24:03 PM	17173
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	1/13/2015 1:24:03 PM	17173

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 8 of 12
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-17 E. Wall @ 0-12'

**Project:** Santa Rosa 8 #2

**Collection Date:** 1/12/2015 9:58:00 AM

**Lab ID:** 1501380-009

**Matrix:** MEOH (SOIL)

**Received Date:** 1/13/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/13/2015 2:18:28 PM	17189
Surr: DNOP	96.6	63.5-128		%REC	1	1/13/2015 2:18:28 PM	17189
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	1/13/2015 1:52:51 PM	17173
Surr: BFB	97.7	80-120		%REC	1	1/13/2015 1:52:51 PM	17173
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.033		mg/Kg	1	1/13/2015 1:52:51 PM	17173
Toluene	ND	0.033		mg/Kg	1	1/13/2015 1:52:51 PM	17173
Ethylbenzene	ND	0.033		mg/Kg	1	1/13/2015 1:52:51 PM	17173
Xylenes, Total	ND	0.066		mg/Kg	1	1/13/2015 1:52:51 PM	17173
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	1/13/2015 1:52:51 PM	17173

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 9 of 12
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1501380  
14-Jan-15

Client: Souder, Miller and Associates  
Project: Santa Rosa 8 #2

Sample ID	<b>MB-17189</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>17189</b>	RunNo:	<b>23615</b>					
Prep Date:	<b>1/13/2015</b>	Analysis Date:	<b>1/13/2015</b>	SeqNo:	<b>697701</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.1		10.00		91.3	63.5	128			

Sample ID	<b>LCS-17189</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>17189</b>	RunNo:	<b>23634</b>					
Prep Date:	<b>1/13/2015</b>	Analysis Date:	<b>1/14/2015</b>	SeqNo:	<b>697805</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	10	50.00	0	120	67.8	130			
Surr: DNOP	3.7		5.000		74.1	63.5	128			

Sample ID	<b>1501380-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-8 S. Base @ 12'</b>	Batch ID:	<b>17189</b>	RunNo:	<b>23634</b>					
Prep Date:	<b>1/13/2015</b>	Analysis Date:	<b>1/14/2015</b>	SeqNo:	<b>697961</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	62	9.8	49.16	0	126	29.2	176			
Surr: DNOP	4.9		4.916		99.5	63.5	128			

Sample ID	<b>1501380-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-8 S. Base @ 12'</b>	Batch ID:	<b>17189</b>	RunNo:	<b>23634</b>					
Prep Date:	<b>1/13/2015</b>	Analysis Date:	<b>1/14/2015</b>	SeqNo:	<b>697962</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	56	10	50.30	0	112	29.2	176	9.19	23	
Surr: DNOP	4.6		5.030		90.8	63.5	128	0	0	

### Qualifiers:

- |   |  |
|---|--|
| * Value exceeds Maximum Contaminant Level.        | B Analyte detected in the associated Method Blank    |
| E Value above quantitation range                  | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits      | ND Not Detected at the Reporting Limit               |
| O RSD is greater than RSDlimit                    | P Sample pH greater than 2.                          |
| R RPD outside accepted recovery limits            | RL Reporting Detection Limit                         |
| S Spike Recovery outside accepted recovery limits |  |

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

WO#: 1501380

14-Jan-15

**Client:** Souder, Miller and Associates

**Project:** Santa Rosa 8 #2

Sample ID: <b>MB-17173</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>17173</b>	RunNo: <b>23618</b>								
Prep Date: <b>1/12/2015</b>	Analysis Date: <b>1/13/2015</b>	SeqNo: <b>697851</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	950		1000		95.4	80	120			

Sample ID: <b>LCS-17173</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>17173</b>	RunNo: <b>23618</b>								
Prep Date: <b>1/12/2015</b>	Analysis Date: <b>1/13/2015</b>	SeqNo: <b>697852</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	5.0	25.00	0	120	65.8	139			
Surr: BFB	1100		1000		108	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1501380

14-Jan-15

Client: Souder, Miller and Associates

Project: Santa Rosa 8 #2

Sample ID	MB-17173	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	17173	RunNo:	23618					
Prep Date:	1/12/2015	Analysis Date:	1/13/2015	SeqNo:	697876	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID	LCS-17173	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	17173	RunNo:	23618					
Prep Date:	1/12/2015	Analysis Date:	1/13/2015	SeqNo:	697877	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	109	80	120			
Toluene	1.1	0.050	1.000	0	112	80	120			
Ethylbenzene	1.2	0.050	1.000	0	116	80	120			
Xylenes, Total	3.4	0.10	3.000	0	114	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		119	80	120			

## Qualifiers:

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

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1501380

Receipt No: 1

Received by/date: *AM* 01/13/15

Logged By: Lindsay Mangin 1/13/2015 7:00:00 AM *[Signature]*

Completed By: Lindsay Mangin 1/13/2015 7:17:28 AM *[Signature]*

Reviewed By: *AM* 01/13/15

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0° C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes  No
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? (if no, notify customer for authorization.) Yes  No

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

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

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

17. Additional remarks: *Person use collection times on LOC 1A-01/13/15*

**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.0	Good	Yes			

# Chain-of-Custody Record

Client: SMA

Turn-Around Time:  
 Standard  Rush Same Day

Mailing Address: 401 W. Broadway  
Farmington NM 87401

Project Name: Santa Rosa #2  
 Project #: 5123099

Phone #: 505 825 7535

email or Fax#: stevemuskal@southernmill.com

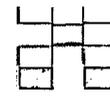
Project Manager: Steve Muskal

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

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

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

Sampler: " " "  
 On Ice:  Yes  No  
 Sample Temperature: 3.0



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO/DRO/TMRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
1/15	0850	Soil/MFC	SC-8 S. Base @ 12'	4oz X/MSA	coolant MEOH	1501380 -001	↓	↓	↓									
	0854		SC-9 N wall @ 0-12'			-002												
	0908		SC-10 E wall @ 0-12'			-003												
	0910		SC-11 W wall @ 0-2'			-004												
	<del>0912</del>		<del>SC-11 S. wall @ 0-12'</del>															
	<del>0918</del>		<del>SC-15 W wall @ 0-2'</del>															
	0920		SC-12 N. Base @ 2'			-005												
	<del>0921</del>		<del>SC-14 S. wall @ 0-12'</del>			-006												
	<del>0921</del>		<del>SC-15 W. wall @ 0-12'</del>			-007												
	0945		SC-16 W wall @ 0-2'			-008												
	0958		SC-17 E wall @ 0-12'			-009	↓	↓										

Date: 1/15 Time: 1500 Relinquished by: [Signature]

Received by: Christine Waack Date: 1/15 Time: 1743

Remarks: - Please Invoice to EPLD  
- copy alicia.patterson@southernmill.com

Date: 1/15 Time: 1821 Relinquished by: [Signature]

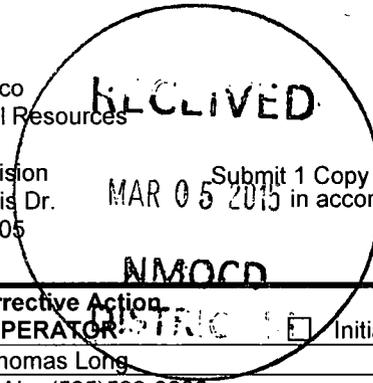
Received by: [Signature] Date: 1/15 Time: 0700

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

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  Final Report

Name of Company Enterprise Field Services, LLC	Contact Thomas Long
Address 614 Reilly Avenue, Farmington NM 87401	Telephone No. (505)599-2286
Facility Name: <b>Ballard Compressor Station</b>	Facility Type <b>Natural Gas Compressor Station</b>

Surface Owner <b>Private</b>	Mineral Owner BLM	API No.
------------------------------	-------------------	---------

LOCATION OF RELEASE

Unit Letter <b>H</b>	Section <b>26</b>	Township <b>26N</b>	Range <b>9W</b>	Feet from the <b>2487</b>	<b>North</b> South Line	Feet from the <b>510</b>	<b>East</b> West Line	County <b>San Juan</b>
-------------------------	----------------------	------------------------	--------------------	---------------------------------	----------------------------	--------------------------------	--------------------------	---------------------------

Latitude 36.459520 Longitude -107.751642

NATURE OF RELEASE

Type of Release <b>Natural Gas Condensate</b>	Volume of Release <b>4-5 Barrels</b>	Volume Recovered <b>4 Barrels (estimated)</b>
Source of Release <b>Condensate Tank Overtopping</b>	Date and Hour of Occurrence <b>7.2.2013 @ 07:00 hours (estimated)</b>	Date and Hour of Discovery <b>7.2.2013 @ 08:00 hours</b>
Was Immediate Notice Given? Required <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not	If YES, To Whom?	
By Whom?	Date and Hour	
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 Taken.\* At tank overtopping was discovered at the Ballard condensate tanks on July 2, 2013. An estimated 4-5 barrels of condensate was released into the lined secondary containment system. Approximately 10-20 gallons of condensate was carried over in mist form and fell onto the ground within a 30 foot semi-circle to the north west side of the tanks and containment system. The condensate from the secondary lined containment berm was removed within 2 hours of the discovery of the tank overtopping. A malfunction of the automated liquid level indicator system was discovered as evidenced by incorrect readings relayed to the monitoring system.

Describe Area Affected and Cleanup Action Taken.\*  
Third party environmental contractor assessed the release area and approximately 120 barrels of contaminated soil were hydro-excavated from within the containment area and transported to a NMOCD approved land farm facility. After assessment and excavation activities were completed, a bioremediation solution (Micro-Blaze) was applied to excavation side walls a base. From December 2014 to January 2015, the two condensate tanks were removed and repaired. Prior to resetting the tanks, approximately 368 cubic yards of hydrocarbon impacted soil were excavated and transported to a NMOCD approved land farm facility. An oxidizing solution (potassium permanganate) was also applied to the excavation prior to backfilling. A third party corrective action report is included with this "Final" C-141.

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

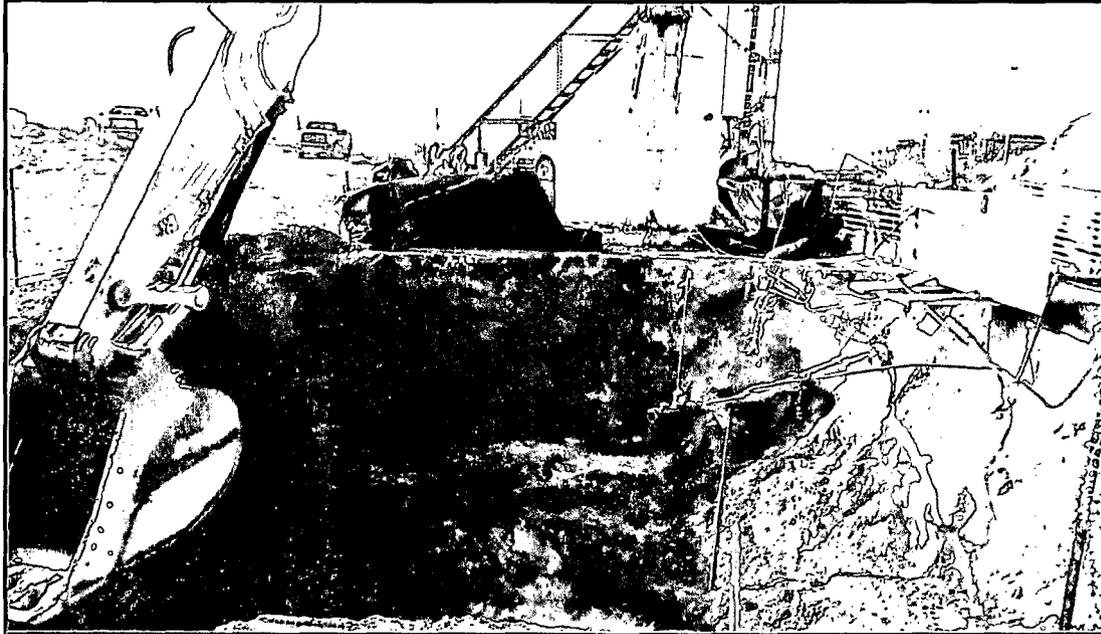
Signature: <i>Jon Fields</i>	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Jon Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: <i>4/30/15</i>	Expiration Date: <i>[Signature]</i>
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <i>8-26-2015</i> Phone: (713)381-6684		

\* Attach Additional Sheets If Necessary

#NCS 14130840639

70

**Enterprise Products**  
**Ballard Compressor Station Tank Battery**  
**Latitude North 36.459520°, Longitude West -107.751642°**  
**SE/NE (Unit H), Section 26, T26N, R9W**  
**San Juan County, New Mexico**  
**February 5, 2015**



**Submitted To:**  
Enterprise Products  
Field Environmental-San Juan Basin  
614 Reilly Avenue  
Farmington, NM 87401

**Submitted By:**  
Souder, Miller & Associates  
401 West Broadway  
Farmington, NM 87401  
(505)325-7535



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Table 1: Release Information

Table 2: Site Ranking

Table 3: Summary of Laboratory Analysis

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Appendix A: Photographic Documentation

Appendix B: Soil Disposal Documentation

Appendix C: Laboratory Analytical Reports

## 1.0 Executive Summary

From December 3, 2014 through January 19, 2015, Souder, Miller & Associates (SMA) responded to oversee the excavation of the hydrocarbon release associated with the Ballard Compressor Station Tank Battery. The release was initially reported on July 2, 2013 and was thought to be the result of overtopping of the western condensate tank associated with a malfunction of the automated liquid level indicator system. During excavation, a leaking collar of a hammer union was discovered to have caused contamination around the base of the below grade tank (BGT). The table below summarizes information about the location remediation activities.

TABLE 1: RELEASE INFORMATION					
Name	Ballard Compressor Station Tank Battery				
Location	Latitude/Longitude		Section, Township, Range		
	36.459520°	-107.751642°	SE/NE (Unit H)	Section 26	T 26N, R 9W
Date Reported	July 2, 2013				
Reported to	Tom Long				
Land Owner	Private				
Reported To	NM Oil Conservation Division (NMOCD)				
Diameter of Pipeline	N/A				
Source of Release	Overfilling of Condensate Tanks				
Release Contents	Natural Gas Liquids/Condensate				
Release Volume	Estimated 4 to 5 barrels				
Nearest Waterway	Approximately 500 feet to an unnamed tributary of Blanco Wash				
Depth to Groundwater	Estimated to be greater than 100 feet				
Nearest Domestic Water Source	Greater than 1,000 feet				
NMOCD Ranking	10				
SMA Response Dates	12/3-4/2014, 12/8/2014, 1/7-9/2015, 1/13-14/2015, 1/16/2015, 1/19/2015				
Subcontractors	West States Energy Contractors (WSEC)				
Disposal Facility	Envirotech				
Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	368 (Reported on Completed C-138)				

## 2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes remediation of the pipeline liquids release associated with the Ballard Compressor Station Tank Battery release site. The site is located in SE/NE (Unit H), Section 26, T26N, R9W, 36.459520°, -107.751642°, San Juan County, New Mexico, on privately owned land. Figure 1 illustrates the vicinity and location of the site.

---

### 3.0 Site Ranking and Land Jurisdiction

The release site is located on a privately owned land, with an elevation of approximately 6,490 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be greater than 100 feet below ground surface (bgs). Figure 2 depicts the site location.

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. Two wells (SJ0064 and SJ00214) were located within 1,000 feet and one additional (SJ0063) within a mile radius of the site. The physical location of this release is within the jurisdiction of NMOCD.

This release location has been assigned a NMOCD ranking of 10 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 1,000 ppm total petroleum hydrocarbons (TPH). Table 2 illustrates site ranking rationale.

### 4.0 Summary of Field Activities

#### 4.1 Historical Field Activities

In July and August of 2013, Animas Environmental Services, LLC (Animas) completed an assessment of the Ballard Compressor Station Condensate Tank release which is documented in the Release Assessment Report: Ballard Compressor Station Condensate Tank Release report dated December 9, 2013. Approximately 38.3 cubic yards of hydrocarbon impacted soil was excavated from inside the steel wall containment and around the footers of the containment wall at depths of 0.25 to 6.0 feet bgs. Laboratory analytical results indicated that remaining contamination existed in the northwest, central, southcentral and southeast portions of the excavation. Animas reported further excavation was limited due to competent shale and sandstone. On August 14, 2013, 500 gallons of Micro-Blaze® was applied to the excavation. Further action was recommended.

#### 4.2 Present Field Activities

On December 3 and 4, 2014, SMA was present on site to oversee and guide excavation of the tank battery during repair and remediation activities. SMA guided the excavation activities by collecting composite soil samples for field screening with a calibrated photo-ionization detector (PID). Initially the release was only thought to have originated as the result of overtopping of the western most condensate tank however several corrosion holes were discovered in the bottom of the western condensate tank when it was removed. Excavation activities were conducted by West States Energy Contractors in the vicinity of the western portion of the secondary containment area. Samples collected for laboratory analysis confirmed the extents of the west excavation were below NMOCD standards.

SMA returned to the site on December 8, 2014, to dig a test pit on the north side of the Below Grade Tank (BGT) and excavate the east and south sides of the battery containment, around the BGT. The test pit was completed to 3' bgs and no contamination was encountered. The areas around the south and east of the BGT were excavated to 6' bgs, no contamination was encountered, and the excavation was backfilled with clean soil. It was not until January 8, 2015,

that contamination was discovered to underlie these areas beginning at 7' bgs and continuing to bedrock at approximately 10' bgs.

On January 7, 8 and 9, 2015, the eastern above ground tank was removed, and the central portion of the secondary containment was excavated. Contaminated soil was evident from the surface down to bedrock however a significant increase in contamination was observed below 7' bgs to bedrock. As the excavation propagated northward, an unmarked pipe leading to the BGT was discovered and was observed to be leaking at a loose hammer union. This release point was considered to be the cause of the contamination underlying the excavations conducted on December 8, 2014, surrounding the BGT. Cory Smith from the NMOCD Aztec Office was present to witness sampling on January 9, 2015. Results from this sampling event showed contamination remained in the northeast and southeast walls of excavation, in proximity to the BGT. SMA and WSEC planned to return on January 13, 2015.

January 13 and 14, 2015, SMA returned to site to oversee and guide the excavation around the north side of the BGT, contaminated soil appeared to extend below the BGT. After consulting with Enterprise, it was decided that the BGT would be removed to ensure all contaminated soil was excavated. The BGT was removed on January 14, 2015 and the remaining contaminated soil was excavated and removed. On January 16, 2014, SMA collected samples for laboratory analysis from the final extents of the excavation. Some of the excavated extents overlapped previously backfilled areas as well as soil used to create the pad for the containment. This material was stockpiled, separately, sampled to confirm it was not impacted, and then used as backfill along with imported soil from the Envirotech landfarm.

The final excavation measured approximately 32 feet by 27 feet with depths of 9 to 10 feet, covering an area of approximately 1134 square feet. In total approximately 368 cubic yards of contaminated soil was removed and replaced with clean backfill material. The contaminated soil was transported to Envirotech Landfarm, near Bloomfield, NM. Soil disposal documentation is included in Appendix B.

Soil samples were submitted for confirmation laboratory analysis per United States Environmental Protection Agency Methods: 8021 for benzene, toluene, ethylbenzene, and xylenes (BTEX) and 8015 for diesel and gasoline range organics (DRO/GRO). All samples were analyzed by Hall Environmental Analytical Laboratory in Albuquerque, New Mexico. Figure 3 illustrates the extent of the excavation, laboratory soil sample locations, and laboratory results.

Due to lithologic competency of the excavation's base, the depth could not be increased. On January 19, 2015, SMA witnessed the application of approximately 350 gallons of potassium permanganate oxidizing solution from Envirotech to the base of the excavation.

## 5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 10: 10 ppm (mg/kg) benzene, 50 ppm total BTEX, and 1,000 ppm TPH.

Laboratory analytical results for all samples collected were below NMOCD Guidelines for benzene (10 ppm), BTEX (50 ppm) and combined GRO/DRO (1,000 ppm) with the exception of SC-29 NE Wall, SC-30 SE Wall, and SC-36 Base (east). TPH was detected in the northeast

wall sample SC-29 @ 0-9' (1870 ppm), the northwest wall sample SC-30 @ 0-9' (1606 ppm), and the east base sample SC-36 @ 10' (1380 ppm). Potassium Permanganate was applied to the excavation to bring remaining contamination levels to below NMOCD remediation standards. The Samples SC-29 and SC-30 were subsequently excavated beyond and the contaminated material removed. Total BTEX was detected, below NMOCD Guidelines, in all the final extent samples.

Soil contaminant concentrations are illustrated in Figure 3. A summary of laboratory analysis is included in Table 3. Laboratory reports are included in Appendix C.

SMA recommends no further action at the Ballard Compressor Station Battery release location.

## 6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, oversight and control of remediation operations, disposal arrangements and documentation, project management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas pipeline releases in the San Juan Basin in New Mexico.

If there are any questions regarding this report, please contact either Steve Moskal or Reid Allan at 505-325-7535.

Submitted by:

Reviewed by:



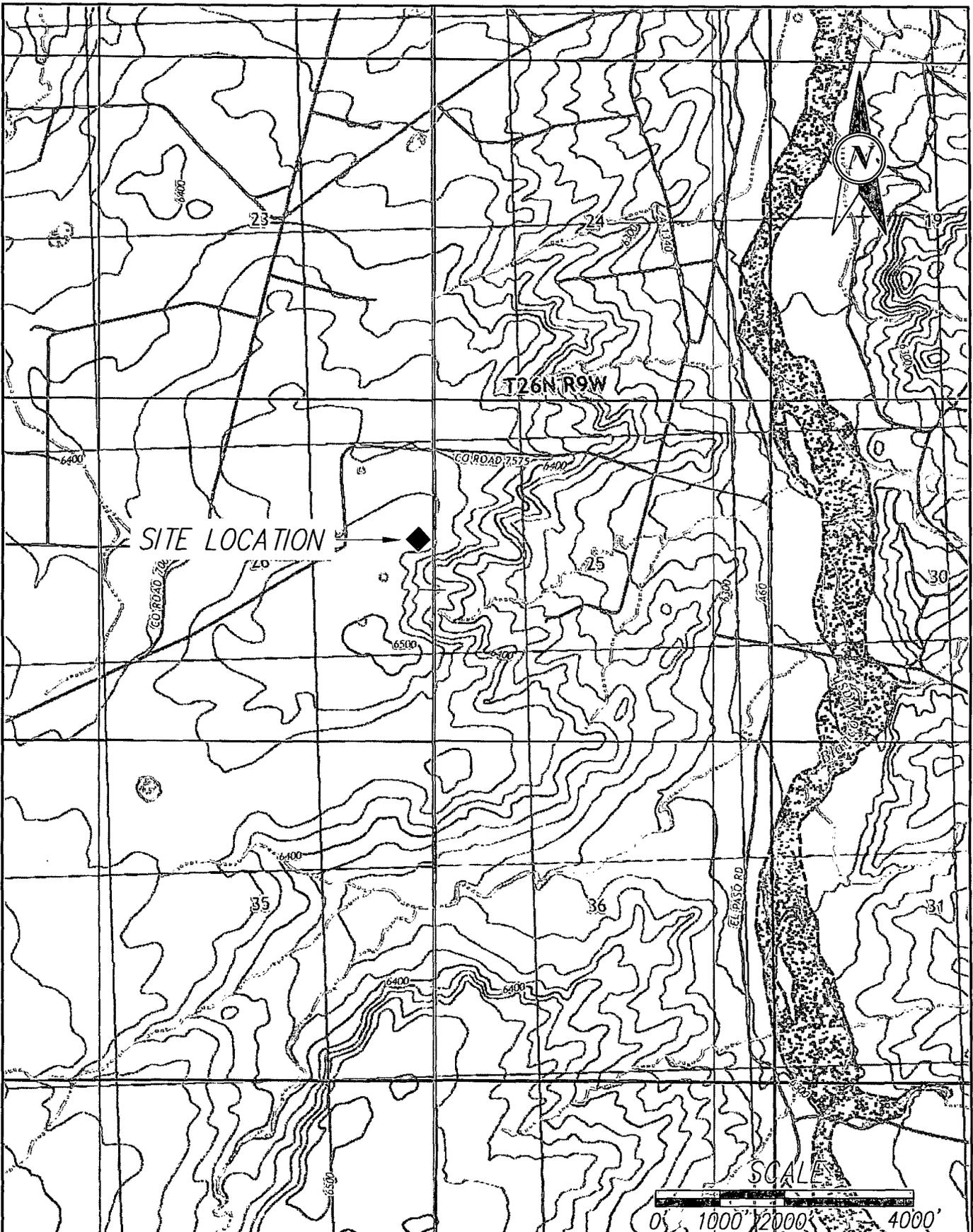
Jesse Sprague  
Staff Scientist



Reid Allan, P.G.  
Vice President/Principal Scientist

SOUDER, MILLER & ASSOCIATES

## Figures



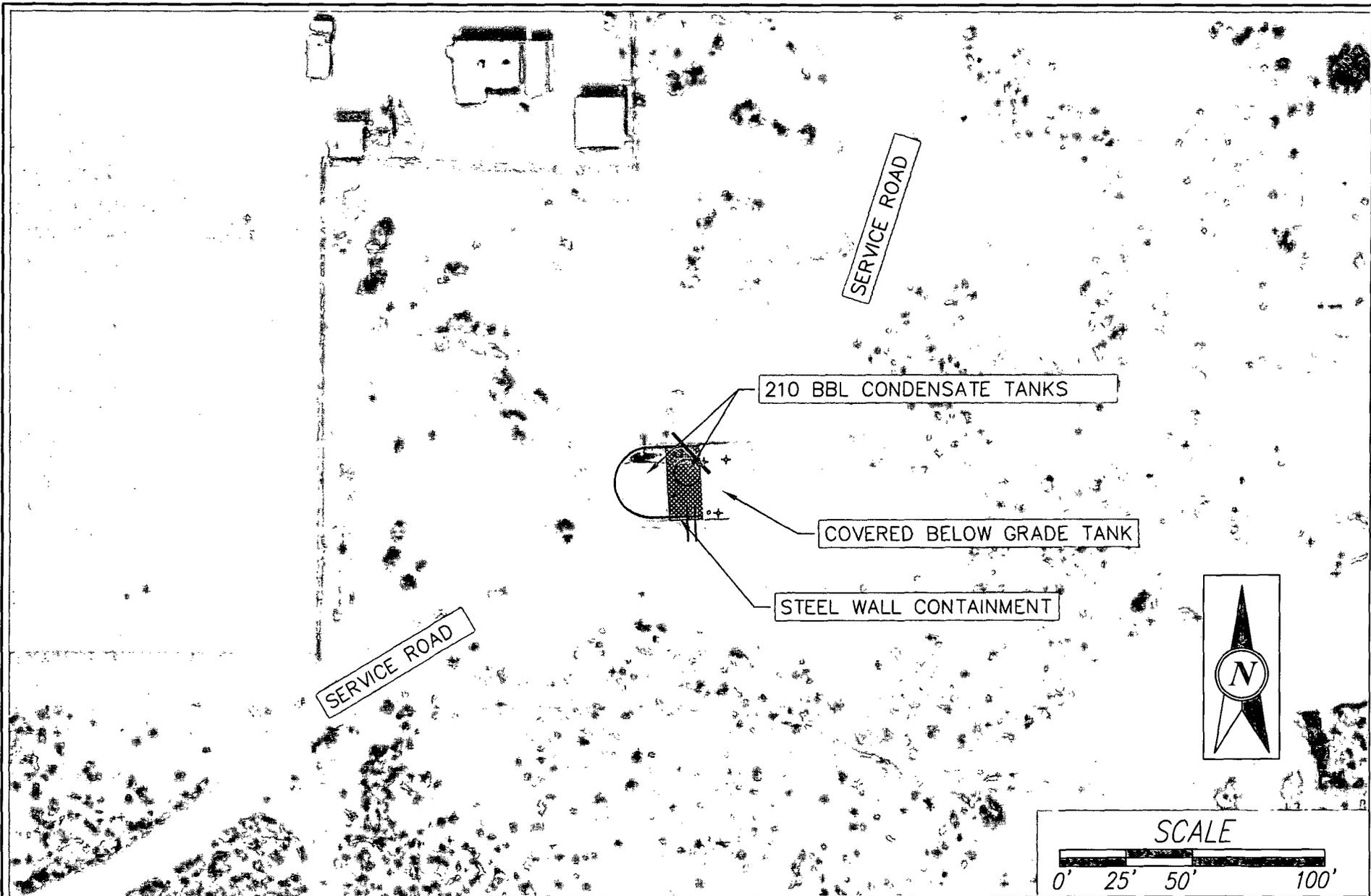
**SOUDER, MILLER & ASSOCIATES**  
 401 West Broadway Avenue  
 Farmington, NM 87401-5907  
 Phone (505) 325-7335 Toll-Free (800) 519-0098 Fax (505) 326-0045  
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 Cortez - Grand Junction - Montrose, CO - Salt Lake City, UT - Moab, UT

ENTERPRISE FARMINGTON, NEW MEXICO

VICINITY MAP  
**BALLARD COMPRESSOR STATION**  
 SECTION 26, T26N, R9W

SAN JUAN COUNTY, NEW MEXICO

Designed SM	Drawn DJB	Checked RSA
Date: 1/8/15		
Scale: Horiz: 1"=2000'		
Vert: N/A		
Project No: 5122855		
Sheet: 1		



**SOUDER, MILLER & ASSOCIATES**  
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 FARMINGTON, NM 87401

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ENTERPRISE

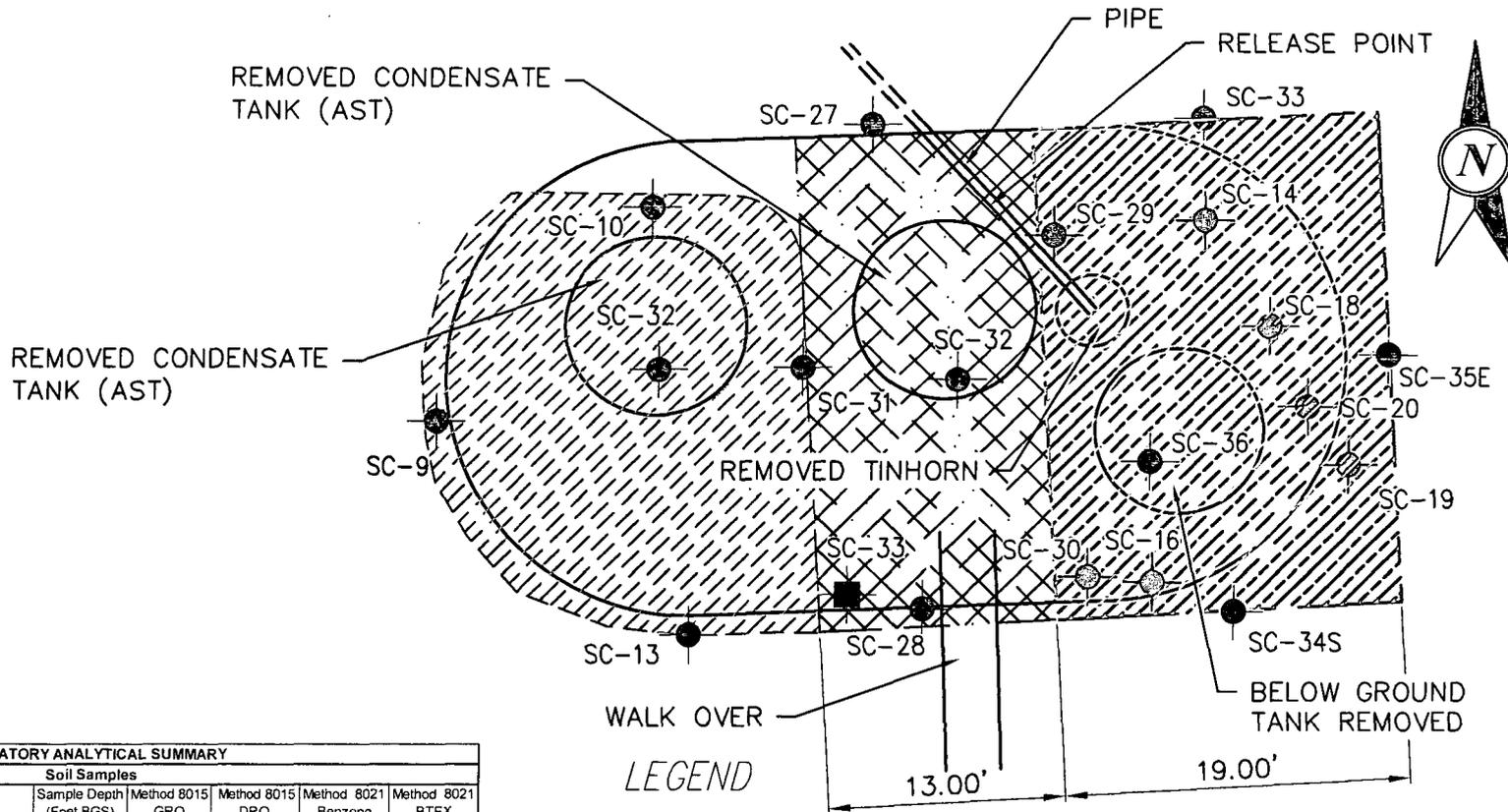
FARMINGTON, NEW MEXICO

Designed SM	Drawn DJB	Checked RSA
----------------	--------------	----------------

**SITE LOCATION MAP**  
**BALLARD COMPRESSOR STATION**  
**SECTION 26, T26N, R9W**

SAN JUAN COUNTY, NEW MEXICO

Date:	1/8/14
Scale:	Horiz: 1"=50' Vert: N/A
Project No:	5122855
Sheet:	2



**LABORATORY ANALYTICAL SUMMARY**

**Soil Samples**

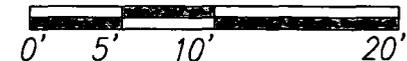
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines			NMOCD Site Ranking: 10	100 ppm		10 ppm	50 ppm
12/8/2014	10:00	SC-13 S. Wall @ 0-6'	0-6.0	<3.7	<10	<0.037	<0.074
12/8/2014	11:20	SC-14 N. E. Corner @ 0-3'	0-3.0	<3.3	<10	<0.033	<0.066
12/8/2014	12:01	SC-16 S. E. Wall @ 0-6.0'	0-6.0	<3.3	49	<0.033	<0.066
12/8/2014	15:15	SC-18 N. Wall @ 0-6'	0-6.0	<3.1	<10	<0.031	<0.062
12/8/2014	15:17	SC-19 W. Wall @ 0-5'	0-5.0	<3.1	<10	<0.031	<0.062
12/8/2014	15:20	SC-20 E. Base @ 5-6'	5-6.0	<3.2	<9.8	<0.032	<0.065
1/9/2015	13:32	SC-27 N	0-7.0	<2.9	<10	<0.029	<0.059
1/9/2015	13:35	SC-28 S	0-7.0	11	250	<0.028	0.12
1/9/2015	13:41	SC-31 W	0-7.0	<3.2	56	<0.032	<0.063
1/9/2015	13:42	SC-32 Base	7	170	360	0.12	8.87
1/9/2015	13:45	Grab South Wall	6	16	<9.9	0.041	0.404
1/16/2015	13:00	SC-33 N	0-9'	<3.3	<9.9	<0.033	<0.067
1/16/2015	13:05	SC-34 S	0-10'	6.2	36	<0.030	0.342
1/16/2015	13:10	SC-35 E	0-10'	<3.0	<9.9	<0.030	<0.060
1/16/2015	13:15	SC-36 Base (east)	10'	740	640	0.44	44.14
1/16/2015	13:20	N Stockpile (Overburden)	--	<3.3	<10	<0.033	<0.065
1/16/2015	13:25	S Stockpile (Pad)	--	<2.9	11	<0.029	<0.058

**LEGEND**

- COMPOSITE SOIL SAMPLE LOCATION
- COMPOSITE SOIL SAMPLE LOCATION TAKEN THEN EXCAVATED BEYOND
- SOIL SAMPLE LOCATION
- EXCAVATION 12/5/2014 (6FT DEPTH)
- EXCAVATION 1/8/2018 (9' DEPTH)
- EXCAVATION 1/16/2015 (10FT DEPTH)

RESULTS IN mg/kg REPORTED  
12-08-14, 12-10-14, 1-14-15,  
1-20-15

**SCALE**



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ENTERPRISE

FARMINGTON, NEW MEXICO

**SOIL CONTAMINANT CONCENTRATION MAP**  
**BALLARD COMPRESSOR STATION**  
**SECTION 26, T26N, R9W**

SAN JUAN COUNTY, NEW MEXICO

Designed SM	Drawn DJB	Checked RSA
Date: 1/29/15		
Scale: Horiz: 1"=10'		
Vert: N/A		
Project No: 5122855		
Sheet: 3		

## Tables

Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20	0	Topographic Maps and Field Verification	Groundwater estimated to be greater than 100 feet below ground surface.
50' to 99' = 10			
>100' = 0			
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20		Topographic Maps and Field Verification	Located within 200' of an unnamed tributary associated with the Valdez Draw drainage basin.
200'-1000' = 10	10		
>1000'			
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200' for a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database	Two recorded water wells are located within 1,000 feet and one is located within a 1 mile radius.
<b>Total Site Ranking</b>		<b>10</b>	
<b>Soil Remediation Standards</b>	0 to 9	10 to 19	>19
<b>Benzene</b>	10 PPM	10 PPM	<b>10 PPM</b>
<b>BTEX</b>	50 PPM	50 PPM	<b>50 PPM</b>
<b>TPH</b>	5000 PPM	1000 PPM	<b>100 PPM</b>

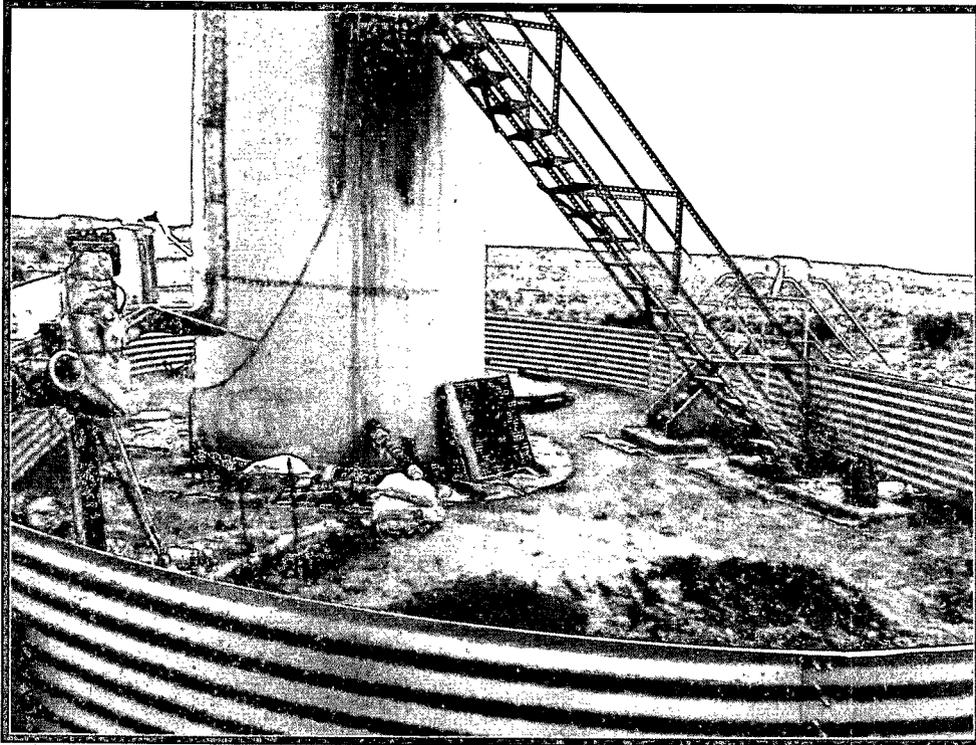


LABORATORY ANALYTICAL SUMMARY							
Soil Samples							
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 10		100 ppm		10 ppm	50 ppm
12/4/2014	10:50	SC-9 W Wall @ 0-5.5'	0-5.5	5.0	170	<0.033	<0.066
12/4/2014	10:52	SC-10 N Wall @ 0-5.5'	0-5.5	23	330	<0.029	0.092
12/4/2014	11:20	SC-12 W Tank Base @ 5.5'	5.5	<3.0	<10	<0.030	<0.060
12/8/2014	10:00	SC-13 S. Wall @ 0-6'	0-6.0	<3.7	<10	<0.037	<0.074
12/8/2014	11:20	SC-14 N. E. Corner @ 0-3'	0-3.0	<3.3	<10	<0.033	<0.066
12/8/2014	12:01	SC-16 S. E. Wall @ 0-6.0'	0-6.0	<3.3	49	<0.033	<0.066
12/8/2014	15:15	SC-18 N. Wall @ 0-6'	0-6.0	<3.1	<10	<0.031	<0.062
12/8/2014	15:17	SC-19 W. Wall @ 0-5'	0-5.0	<3.1	<10	<0.031	<0.062
12/8/2014	15:20	SC-20 E. Base @ 5-6	5-6.0	<3.2	<9.8	<0.032	<0.065
1/9/2015	13:32	SC-27 N	0-7.0	<2.9	<10	<0.029	<0.059
1/9/2015	13:35	SC-28 S	0-7.0	11	250	<0.028	0.12
1/9/2015	13:38	SC-29 NE	0-7.0	920	950	1.3	73.62
1/9/2015	13:40	SC-30 SE	0-7.0	6.2	1600	<0.029	<0.058
1/9/2015	13:41	SC-31 W	0-7.0	<3.2	56	<0.032	<0.063
1/9/2015	13:42	SC-32 Base	7	170	360	0.12	8.87
1/9/2015	13:45	Grab South Wall	6	16	<9.9	0.041	0.404
1/16/2015	13:00	SC-33 N	0-9'	<3.3	<9.9	<0.033	<0.067
1/16/2015	13:05	SC-34 S	0-10'	6.2	36	<0.030	0.342
1/16/2015	13:10	SC-35 E	0-10'	<3.0	<9.9	<0.030	<0.060
1/16/2015	13:15	SC-36 Base (east)	10'	740	640	0.44	44.14
1/16/2015	13:20	N Stockpile (Overburden)	--	<3.3	<10	<0.033	<0.065
1/16/2015	13:25	S Stockpile (Pad)	--	<2.9	11	<0.029	<0.058



**Appendix A**  
**Photographic Documentation**

**Site Photographs**  
**Enterprise Products Ballard Compressor Station**

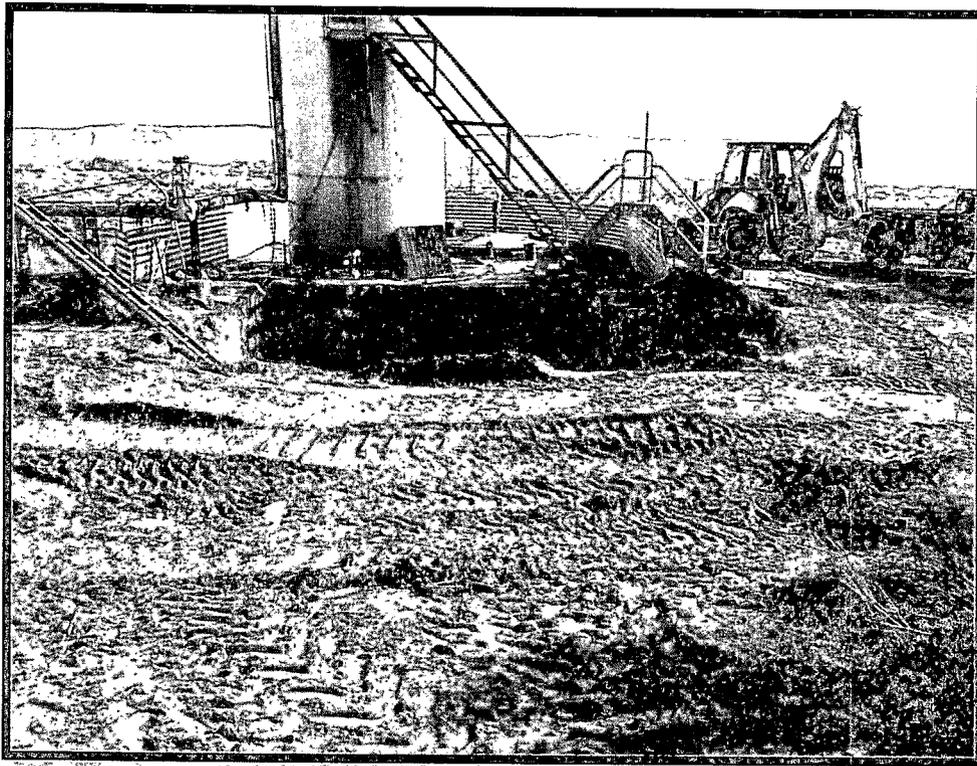


**Photo 1:** West Tank removed, central above grade tank (AST) still in place, below grade tank (BGT) located behind AST.

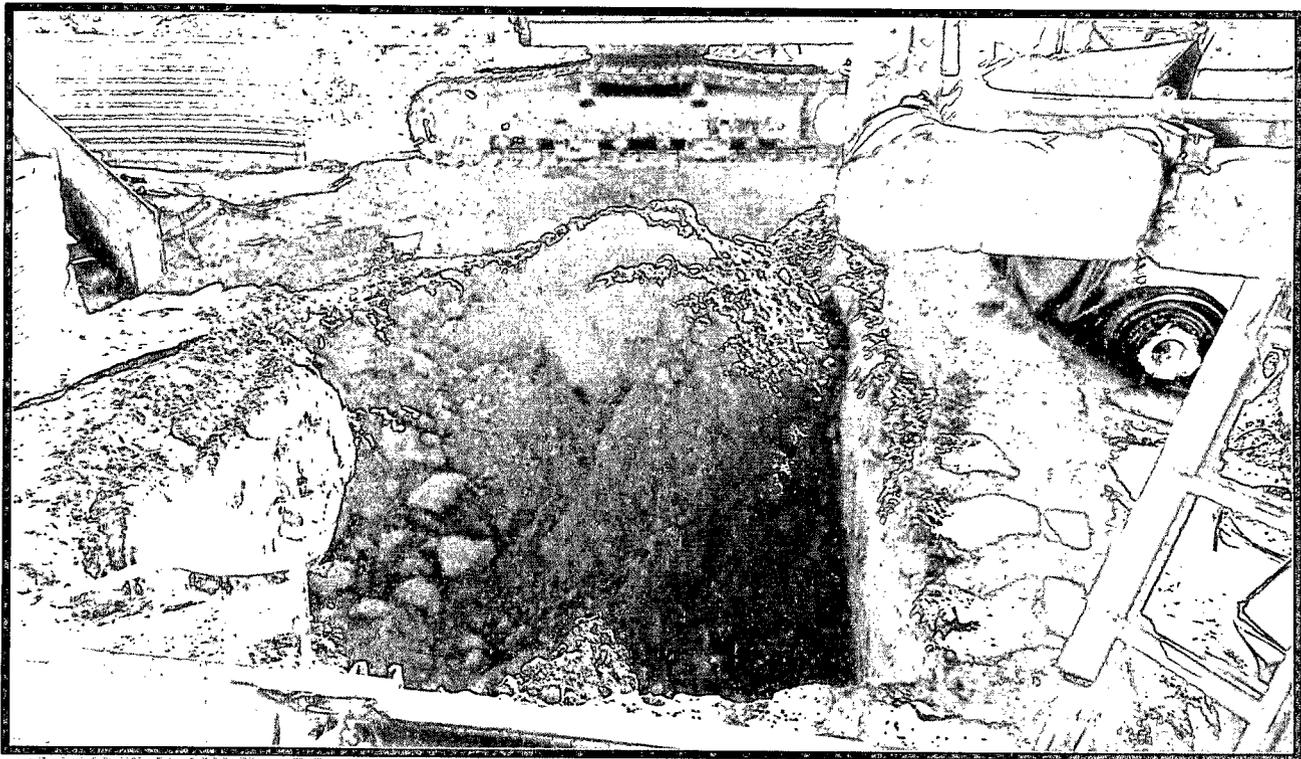


**Photo 2:** Excavation on west side of tank battery, west containment removed (visible in upper right corner).

**Site Photographs**  
**Enterprise Products Ballard Compressor Station**

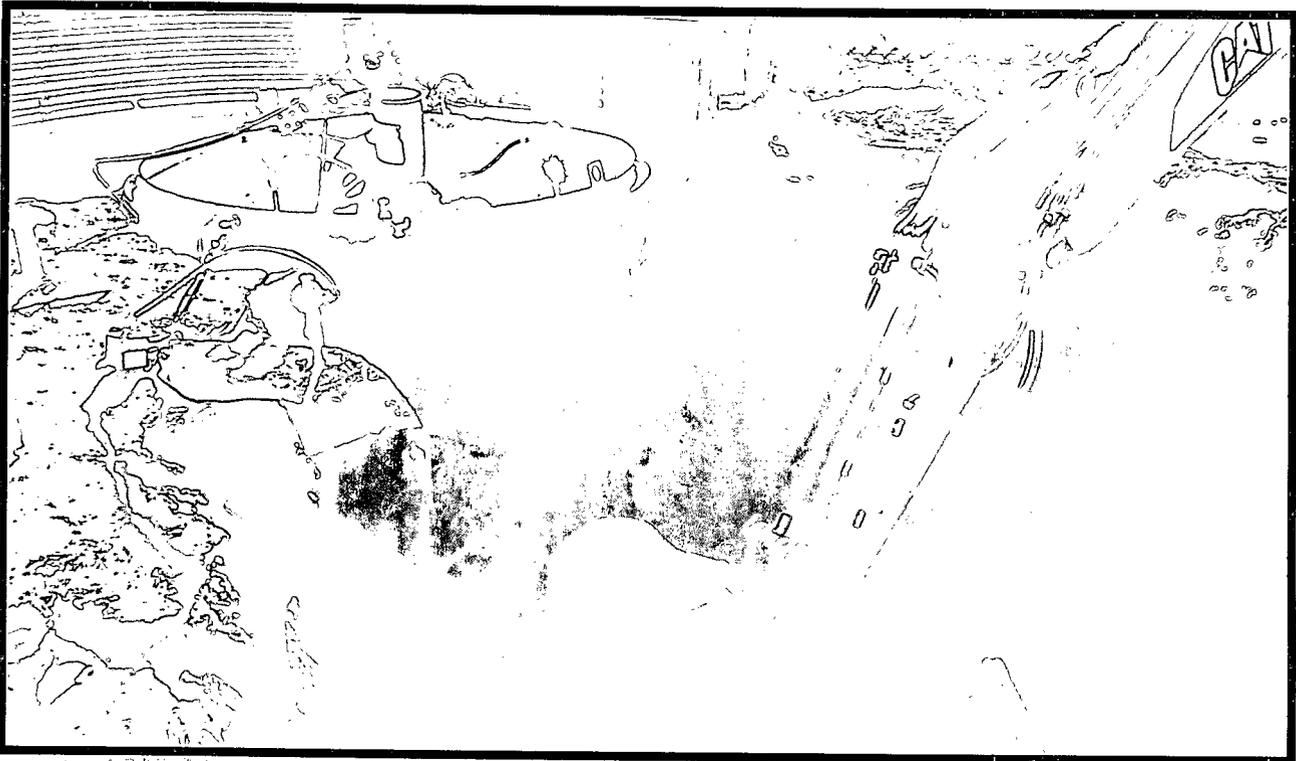


**Photo 3:** West excavation extents prior to backfilling.

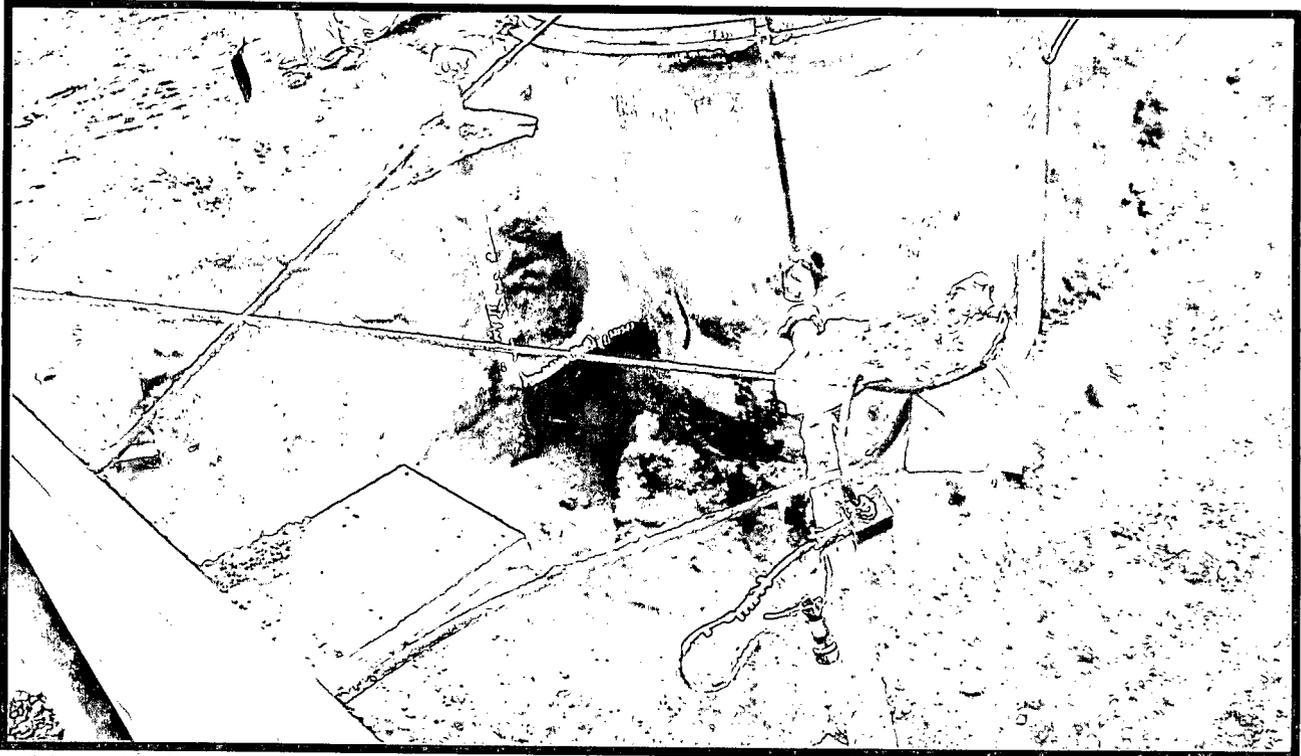


**Photo 4:** First stage of excavation in central portion of battery containment beneath eastern AST.

**Site Photographs**  
**Enterprise Products Ballard Compressor Station**



**Photo 5:** Central excavation uncovers contaminated soil around base of BGT. Tinhorn is removed exposing the valve and pipe in center-left of image.



**Photo 6:** Pipe fully exposed, leak located in pipe center right of image. Black and grey contaminated soil visible around base of BGT.

**Site Photographs**  
**Enterprise Products Ballard Compressor Station**

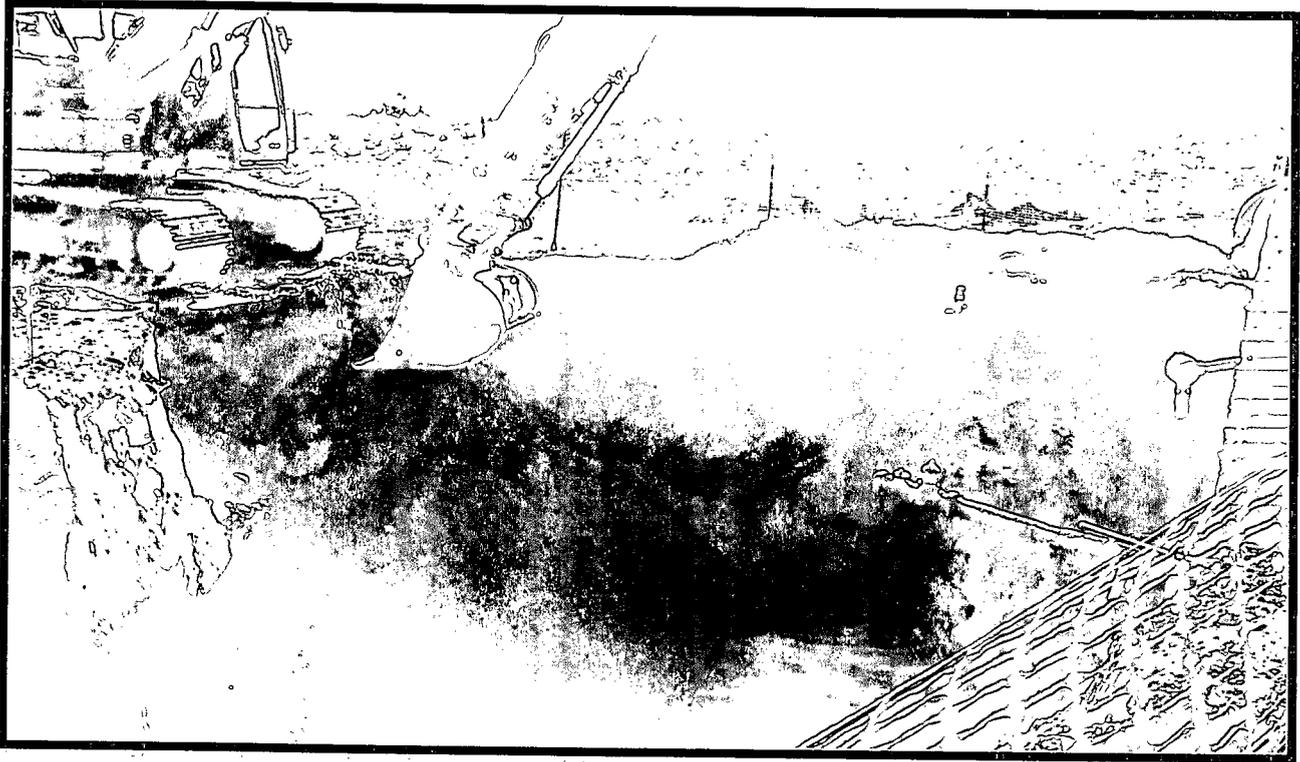


**Photo 7:** Excavation extents after BGT removal. Hammer union on pipe in right of image was found to be leaking.



**Photo 8:** Base of excavation on competent sandstone. View is to the south-southwest.

**Site Photographs**  
**Enterprise Products Ballard Compressor Station**



**Photo 9:** Final Excavation extents. One load of contaminated soil remaining to be removed.



**Photo 10:** Application of potassium permanganate to final extents of excavation, prior to backfill, January 19, 2015.

**Appendix B**  
**Soil Disposal Documentation**

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

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

97057-0677

Form C-138  
Revised 08/01/11

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

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401	Jan, 2015
2. Originating Site: Ballard Compressor Station	
3. Location of Material (Street Address, City, State or ULSTR): UL H Section 26, T26N, R9W; 36.459530, -107.751634	
4. Source and Description of Waste: Source: Water and Sludge from Steaming Cleaning Vessels. Description: Soil impacted with Natural Gas Liquids (Condensate and Water) Estimated Volume 100 yd <sup>3</sup> bbls Known Volume (to be entered by the operator at the end of the haul) 238 yd <sup>3</sup> bbls	
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS	
I, Thomas Long <i>Thomas Long</i> , representative or authorized agent for Enterprise Products Operating do hereby Generator Signature certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)	
<input checked="" type="checkbox"/> RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non- exempt waste. <u>Operator Use Only: Waste Acceptance Frequency</u> <input type="checkbox"/> Monthly <input type="checkbox"/> Weekly <input type="checkbox"/> Per Load	
<input type="checkbox"/> RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)	
<input type="checkbox"/> MSDS Information <input type="checkbox"/> RCRA Hazardous Waste Analysis <input checked="" type="checkbox"/> Process Knowledge <input type="checkbox"/> Other (Provide description in Box 4)	
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS	
I, Thomas Long <i>Thomas Long</i> 1-13-15, representative for Enterprise Products Operating authorizes Envirotech, Inc. to complete Generator Signature the required testing/sign the Generator Waste Testing Certification.	
I, <i>Kendra Runnig</i> , representative for <u>Envirotech, Inc.</u> do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.	
5. Transporter: West States Energy Contractors	

#### 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:

Method of Treatment and/or Disposal:

Evaporation  Injection  Treating Plant  Landfarm  Landfill  Other

Waste Acceptance Status:

APPROVED

DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Kendra Runnig  
SIGNATURE: *Kendra Runnig*  
Surface Waste Management Facility Authorized Agent

TITLE: Waste Coordinator DATE: 1/7/15  
TELEPHONE NO.: 505-632-0615

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

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

97057-0677 Form C-138  
Revised 08/01/11

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

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:  
Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:  
Ballard Compressor Station

Dec 2014

3. Location of Material (Street Address, City, State or ULSTR):  
UL H Section 26, T26N, R9W; 36.459530, -107.751634

4. Source and Description of Waste:  
Source: Water and Sludge from Steaming Cleaning Vessels.  
Description: Soil impacted with Natural Gas Liquids (Condensate and Water)  
Estimated Volume 100 (yd<sup>3</sup>) bbls Known Volume (to be entered by the operator at the end of the haul) 130 (yd<sup>3</sup>) bbls

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

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

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

- MSDS Information  RCRA Hazardous Waste Analysis  Process Knowledge  Other (Provide description in Box 4)

#### GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long *Thomas Long* 12-3-14, representative for Enterprise Products Operating authorizes Envirotech, Inc. to complete  
Generator Signature  
the required testing/sign the Generator Waste Testing Certification.

I, *Kendra Runing* 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.

#### 5. Transporter: West States Energy Contractors

##### 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:

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

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

PRINT NAME: *Kendra Runing*  
SIGNATURE: *Kendra Runing*  
Surface Waste Management Facility Authorized Agent

TITLE: *waste Coordinator*  
*Land Farm Administrator*  
DATE: *12-3-14*  
TELEPHONE NO.: 505-632-0615

**Appendix C**  
**Laboratory Analytical Reports**



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

December 08, 2014

Steve Moskal  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX

RE: Ballard Compressor Station

OrderNo.: 1412285

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 3 sample(s) on 12/5/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates  
**Project:** Ballard Compressor Station  
**Lab ID:** 1412285-001

**Client Sample ID:** SC-9 W Wall @ 0-5.5'  
**Collection Date:** 12/4/2014 10:50:00 AM  
**Received Date:** 12/5/2014 7:45:00 AM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	170	10		mg/Kg	1	12/5/2014 11:30:54 AM	16685
Surr: DNOP	88.2	63.5-128		%REC	1	12/5/2014 11:30:54 AM	16685
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	5.0	3.3		mg/Kg	1	12/5/2014 11:06:27 AM	R22974
Surr: BFB	134	80-120	S	%REC	1	12/5/2014 11:06:27 AM	R22974
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.033		mg/Kg	1	12/5/2014 11:06:27 AM	R22974
Toluene	ND	0.033		mg/Kg	1	12/5/2014 11:06:27 AM	R22974
Ethylbenzene	ND	0.033		mg/Kg	1	12/5/2014 11:06:27 AM	R22974
Xylenes, Total	ND	0.066		mg/Kg	1	12/5/2014 11:06:27 AM	R22974
Surr: 4-Bromofluorobenzene	99.0	80-120		%REC	1	12/5/2014 11:06:27 AM	R22974

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 1 of 6
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-10 N Wall @ 0-5.5'

**Project:** Ballard Compressor Station

**Collection Date:** 12/4/2014 10:52:00 AM

**Lab ID:** 1412285-002

**Matrix:** SOIL

**Received Date:** 12/5/2014 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	330	9.9		mg/Kg	1	12/5/2014 12:00:53 PM	16685
Surr: DNOP	94.4	63.5-128		%REC	1	12/5/2014 12:00:53 PM	16685
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	23	2.9		mg/Kg	1	12/5/2014 11:35:02 AM	R22974
Surr: BFB	353	80-120	S	%REC	1	12/5/2014 11:35:02 AM	R22974
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.029		mg/Kg	1	12/5/2014 11:35:02 AM	R22974
Toluene	ND	0.029		mg/Kg	1	12/5/2014 11:35:02 AM	R22974
Ethylbenzene	ND	0.029		mg/Kg	1	12/5/2014 11:35:02 AM	R22974
Xylenes, Total	0.092	0.058		mg/Kg	1	12/5/2014 11:35:02 AM	R22974
Surr: 4-Bromofluorobenzene	114	80-120		%REC	1	12/5/2014 11:35:02 AM	R22974

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1412285

Date Reported: 12/8/2014

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-12 W Tank Base @ 5.5'

Project: Ballard Compressor Station

Collection Date: 12/4/2014 11:20:00 AM

Lab ID: 1412285-003

Matrix: SOIL

Received Date: 12/5/2014 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/5/2014 12:30:55 PM	16685
Surr: DNOP	85.4	63.5-128		%REC	1	12/5/2014 12:30:55 PM	16685
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	12/5/2014 12:03:45 PM	R22974
Surr: BFB	93.7	80-120		%REC	1	12/5/2014 12:03:45 PM	R22974
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.030		mg/Kg	1	12/5/2014 12:03:45 PM	R22974
Toluene	ND	0.030		mg/Kg	1	12/5/2014 12:03:45 PM	R22974
Ethylbenzene	ND	0.030		mg/Kg	1	12/5/2014 12:03:45 PM	R22974
Xylenes, Total	ND	0.060		mg/Kg	1	12/5/2014 12:03:45 PM	R22974
Surr: 4-Bromofluorobenzene	92.0	80-120		%REC	1	12/5/2014 12:03:45 PM	R22974

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

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

WO#: 1412285

08-Dec-14

**Client:** Souder, Miller and Associates

**Project:** Ballard Compressor Station

Sample ID: <b>MB-16685</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>16685</b>		RunNo: <b>22954</b>							
Prep Date: <b>12/5/2014</b>	Analysis Date: <b>12/5/2014</b>		SeqNo: <b>677912</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	7.1		10.00		71.0	63.5	128			

Sample ID: <b>LCS-16685</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>16685</b>		RunNo: <b>22954</b>							
Prep Date: <b>12/5/2014</b>	Analysis Date: <b>12/5/2014</b>		SeqNo: <b>677913</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.3	68.6	130			
Surr: DNOP	4.6		5.000		91.7	63.5	128			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

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

WO#: 1412285

08-Dec-14

**Client:** Souder, Miller and Associates

**Project:** Ballard Compressor Station

Sample ID: <b>5ML RB</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>R22974</b>	RunNo: <b>22974</b>								
Prep Date:	Analysis Date: <b>12/5/2014</b>	SeqNo: <b>678542</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		87.5	80	120			

Sample ID: <b>2.5UG GRO LCS</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>R22974</b>	RunNo: <b>22974</b>								
Prep Date:	Analysis Date: <b>12/5/2014</b>	SeqNo: <b>678543</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.2	65.8	139			
Surr: BFB	1000		1000		99.6	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

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

WO#: 1412285

08-Dec-14

**Client:** Souder, Miller and Associates

**Project:** Ballard Compressor Station

Sample ID <b>5ML RB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>R22974</b>		RunNo: <b>22974</b>							
Prep Date:	Analysis Date: <b>12/5/2014</b>		SeqNo: <b>678559</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.91		1.000		91.3	80	120			

Sample ID <b>100NG BTEX LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>R22974</b>		RunNo: <b>22974</b>							
Prep Date:	Analysis Date: <b>12/5/2014</b>		SeqNo: <b>678560</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	100	80	120			
Toluene	0.99	0.050	1.000	0	98.5	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.9	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.5	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1412285

RcptNo: 1

Received by/date: LM 12/05/14

Logged By: Anne Thorne 12/5/2014 7:45:00 AM *Anne Thorne*

Completed By: Anne Thorne 12/5/2014 *Anne Thorne*

Reviewed By: *[Signature]* 12/05/14

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

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

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

17. Additional remarks:

**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.7	Good	Yes			

Client: SMA

Standard  Rush Same Day



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Mailing Address: 401 W. Broadway  
Farmington, NM 87401

Project Name: Bulkhead Compressor Station  
Project #:

Phone #: (505) 325-7535  
email or Fax#: steven.moskall@seundermiller.com

Project Manager: Steve Moskall

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

Accreditation:  
 NELAP  Other

EDD (Type)

Sampler: SM  
On Ice:  Yes  No

Sample Temperature: 2.7

**Analysis Request**

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
X	X	X									
X	X	X									
X	X	X									

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
12/4/14	1050	Soil MESH	SC-9 W. wall @ 0-5.5'	4oz F MESH		1412285-001
↓	1052	↓	SC-10 N. wall @ 0-5.5'	↓		1412285-002
↓	1120	↓	SC-12 W. Tank Base @ 5.5'	↓		1412285-003

Date: 12/4/14 Time: 1415 Relinquished by: [Signature]

Received by: Christa Waelchli Date: 12/4/14 Time: 1819

Remarks: Invoice to Enterprise Products copy alicia.patterson@seundermiller.com

Date: 12/4/14 Time: 1841 Relinquished by: [Signature]

Received by: [Signature] Date: 12/25/14 Time: 0745

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



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

December 10, 2014

Steve Moskal  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX

RE: Ballard Compressor Station

OrderNo.: 1412387

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 6 sample(s) on 12/9/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates **Client Sample ID:** SC-13 S. Wall @ 0-6'  
**Project:** Ballard Compressor Station **Collection Date:** 12/8/2014 10:00:00 AM  
**Lab ID:** 1412387-001 **Matrix:** MEOH (SOIL) **Received Date:** 12/9/2014 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/9/2014 11:27:13 AM	16735
Surr: DNOP	82.2	63.5-128		%REC	1	12/9/2014 11:27:13 AM	16735
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	12/9/2014 10:49:33 AM	R23008
Surr: BFB	90.6	80-120		%REC	1	12/9/2014 10:49:33 AM	R23008
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.037		mg/Kg	1	12/9/2014 10:49:33 AM	R23008
Toluene	ND	0.037		mg/Kg	1	12/9/2014 10:49:33 AM	R23008
Ethylbenzene	ND	0.037		mg/Kg	1	12/9/2014 10:49:33 AM	R23008
Xylenes, Total	ND	0.074		mg/Kg	1	12/9/2014 10:49:33 AM	R23008
Surr: 4-Bromofluorobenzene	94.7	80-120		%REC	1	12/9/2014 10:49:33 AM	R23008

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-14 N.E. Corner @ 0-3'

Project: Ballard Compressor Station

Collection Date: 12/8/2014 11:20:00 AM

Lab ID: 1412387-002

Matrix: MEOH (SOIL)

Received Date: 12/9/2014 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/9/2014 11:48:35 AM	16735
Surr: DNOP	81.6	63.5-128		%REC	1	12/9/2014 11:48:35 AM	16735
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	12/9/2014 12:44:18 PM	R23008
Surr: BFB	98.2	80-120		%REC	1	12/9/2014 12:44:18 PM	R23008
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.033		mg/Kg	1	12/9/2014 12:44:18 PM	R23008
Toluene	ND	0.033		mg/Kg	1	12/9/2014 12:44:18 PM	R23008
Ethylbenzene	ND	0.033		mg/Kg	1	12/9/2014 12:44:18 PM	R23008
Xylenes, Total	ND	0.066		mg/Kg	1	12/9/2014 12:44:18 PM	R23008
Surr: 4-Bromofluorobenzene	99.6	80-120		%REC	1	12/9/2014 12:44:18 PM	R23008

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller and Associates**Client Sample ID:** SC-16 S.E. Wall @ 0-6'**Project:** Ballard Compressor Station**Collection Date:** 12/8/2014 12:01:00 PM**Lab ID:** 1412387-003**Matrix:** MEOH (SOIL)**Received Date:** 12/9/2014 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	49	10		mg/Kg	1	12/9/2014 9:40:32 AM	16735
Surr: DNOP	89.7	63.5-128		%REC	1	12/9/2014 9:40:32 AM	16735
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	12/9/2014 1:13:02 PM	R23008
Surr: BFB	95.5	80-120		%REC	1	12/9/2014 1:13:02 PM	R23008
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.033		mg/Kg	1	12/9/2014 1:13:02 PM	R23008
Toluene	ND	0.033		mg/Kg	1	12/9/2014 1:13:02 PM	R23008
Ethylbenzene	ND	0.033		mg/Kg	1	12/9/2014 1:13:02 PM	R23008
Xylenes, Total	ND	0.066		mg/Kg	1	12/9/2014 1:13:02 PM	R23008
Surr: 4-Bromofluorobenzene	99.5	80-120		%REC	1	12/9/2014 1:13:02 PM	R23008

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Analytical Report**

Lab Order 1412387

Date Reported: 12/10/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-18 N. Wall @ 0-6'

**Project:** Ballard Compressor Station

**Collection Date:** 12/8/2014 3:15:00 PM

**Lab ID:** 1412387-004

**Matrix:** MEOH (SOIL)

**Received Date:** 12/9/2014 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/9/2014 10:10:21 AM	16735
Surr: DNOP	91.2	63.5-128		%REC	1	12/9/2014 10:10:21 AM	16735
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	12/9/2014 1:41:43 PM	R23008
Surr: BFB	93.5	80-120		%REC	1	12/9/2014 1:41:43 PM	R23008
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.031		mg/Kg	1	12/9/2014 1:41:43 PM	R23008
Toluene	ND	0.031		mg/Kg	1	12/9/2014 1:41:43 PM	R23008
Ethylbenzene	ND	0.031		mg/Kg	1	12/9/2014 1:41:43 PM	R23008
Xylenes, Total	ND	0.062		mg/Kg	1	12/9/2014 1:41:43 PM	R23008
Surr: 4-Bromofluorobenzene	98.3	80-120		%REC	1	12/9/2014 1:41:43 PM	R23008

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 4 of 9
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates **Client Sample ID:** SC-19 E. Wall @ 0-5'  
**Project:** Ballard Compressor Station **Collection Date:** 12/8/2014 3:17:00 PM  
**Lab ID:** 1412387-005 **Matrix:** MEOH (SOIL) **Received Date:** 12/9/2014 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/9/2014 10:40:08 AM	16735
Surr: DNOP	86.4	63.5-128		%REC	1	12/9/2014 10:40:08 AM	16735
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	12/9/2014 2:10:26 PM	R23008
Surr: BFB	93.9	80-120		%REC	1	12/9/2014 2:10:26 PM	R23008
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.031		mg/Kg	1	12/9/2014 2:10:26 PM	R23008
Toluene	ND	0.031		mg/Kg	1	12/9/2014 2:10:26 PM	R23008
Ethylbenzene	ND	0.031		mg/Kg	1	12/9/2014 2:10:26 PM	R23008
Xylenes, Total	ND	0.062		mg/Kg	1	12/9/2014 2:10:26 PM	R23008
Surr: 4-Bromofluorobenzene	97.6	80-120		%REC	1	12/9/2014 2:10:26 PM	R23008

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller and Associates**Client Sample ID:** SC-20 E. Base @ 5-6'**Project:** Ballard Compressor Station**Collection Date:** 12/8/2014 3:20:00 PM**Lab ID:** 1412387-006**Matrix:** MEOH (SOIL)**Received Date:** 12/9/2014 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/9/2014 11:10:17 AM	16735
Surr: DNOP	83.0	63.5-128		%REC	1	12/9/2014 11:10:17 AM	16735
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	12/9/2014 2:39:07 PM	R23008
Surr: BFB	93.3	80-120		%REC	1	12/9/2014 2:39:07 PM	R23008
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	12/9/2014 2:39:07 PM	R23008
Toluene	ND	0.032		mg/Kg	1	12/9/2014 2:39:07 PM	R23008
Ethylbenzene	ND	0.032		mg/Kg	1	12/9/2014 2:39:07 PM	R23008
Xylenes, Total	ND	0.065		mg/Kg	1	12/9/2014 2:39:07 PM	R23008
Surr: 4-Bromofluorobenzene	98.0	80-120		%REC	1	12/9/2014 2:39:07 PM	R23008

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1412387

10-Dec-14

**Client:** Souder, Miller and Associates

**Project:** Ballard Compressor Station

Sample ID	<b>MB-16735</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>16735</b>	RunNo:	<b>23006</b>					
Prep Date:	<b>12/9/2014</b>	Analysis Date:	<b>12/9/2014</b>	SeqNo:	<b>679678</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	7.0		10.00		70.1	63.5	128			

Sample ID	<b>LCS-16735</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>16735</b>	RunNo:	<b>23006</b>					
Prep Date:	<b>12/9/2014</b>	Analysis Date:	<b>12/9/2014</b>	SeqNo:	<b>679679</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	43	10	50.00	0	86.5	68.6	130			
Surr: DNOP	4.0		5.000		80.4	63.5	128			

Sample ID	<b>1412387-006AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-20 E. Base @ 5-</b>	Batch ID:	<b>16735</b>	RunNo:	<b>23006</b>					
Prep Date:	<b>12/9/2014</b>	Analysis Date:	<b>12/9/2014</b>	SeqNo:	<b>680727</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	45	9.8	49.16	0	92.0	29.2	176			
Surr: DNOP	4.4		4.916		88.6	63.5	128			

Sample ID	<b>1412387-006AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-20 E. Base @ 5-</b>	Batch ID:	<b>16735</b>	RunNo:	<b>23006</b>					
Prep Date:	<b>12/9/2014</b>	Analysis Date:	<b>12/9/2014</b>	SeqNo:	<b>680728</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	49	10	49.80	0	98.0	29.2	176	7.61	23	
Surr: DNOP	4.5		4.980		90.4	63.5	128	0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

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

WO#: 1412387

10-Dec-14

**Client:** Souder, Miller and Associates

**Project:** Ballard Compressor Station

Sample ID	<b>MB-16708 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R23008</b>	RunNo:	<b>23008</b>					
Prep Date:		Analysis Date:	<b>12/9/2014</b>	SeqNo:	<b>680452</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		87.9	80	120			

Sample ID	<b>LCS-16708 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R23008</b>	RunNo:	<b>23008</b>					
Prep Date:		Analysis Date:	<b>12/9/2014</b>	SeqNo:	<b>680453</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.4	65.8	139			
Surr: BFB	1000		1000		103	80	120			

Sample ID	<b>MB-16720</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>16720</b>	RunNo:	<b>23008</b>					
Prep Date:	<b>12/8/2014</b>	Analysis Date:	<b>12/9/2014</b>	SeqNo:	<b>680463</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	920		1000		91.9	80	120			

Sample ID	<b>LCS-16720</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>16720</b>	RunNo:	<b>23008</b>					
Prep Date:	<b>12/8/2014</b>	Analysis Date:	<b>12/9/2014</b>	SeqNo:	<b>680464</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		99.7	80	120			

Sample ID	<b>LCSD-16720</b>	SampType:	<b>LCSD</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS02</b>	Batch ID:	<b>16720</b>	RunNo:	<b>23008</b>					
Prep Date:	<b>12/8/2014</b>	Analysis Date:	<b>12/9/2014</b>	SeqNo:	<b>680465</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000							0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1412387

10-Dec-14

**Client:** Souder, Miller and Associates

**Project:** Ballard Compressor Station

Sample ID	<b>MB-16708 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R23008</b>	RunNo:	<b>23008</b>					
Prep Date:		Analysis Date:	<b>12/9/2014</b>	SeqNo:	<b>680483</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.93		1.000		93.3	80	120			

Sample ID	<b>LCS-16708 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R23008</b>	RunNo:	<b>23008</b>					
Prep Date:		Analysis Date:	<b>12/9/2014</b>	SeqNo:	<b>680484</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.050	1.000	0	98.2	80	120			
Toluene	0.97	0.050	1.000	0	96.6	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.7	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.3	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID	<b>MB-16720</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>16720</b>	RunNo:	<b>23008</b>					
Prep Date:	<b>12/8/2014</b>	Analysis Date:	<b>12/9/2014</b>	SeqNo:	<b>680494</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.99		1.000		98.7	80	120			

Sample ID	<b>LCS-16720</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>16720</b>	RunNo:	<b>23008</b>					
Prep Date:	<b>12/8/2014</b>	Analysis Date:	<b>12/9/2014</b>	SeqNo:	<b>680495</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID	<b>LCSD-16720</b>	SampType:	<b>LCSD</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS02</b>	Batch ID:	<b>16720</b>	RunNo:	<b>23008</b>					
Prep Date:	<b>12/8/2014</b>	Analysis Date:	<b>12/9/2014</b>	SeqNo:	<b>680496</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120	0		

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1412387

RcptNo: 1

Received by/date:

*[Signature]*

12/09/14

Logged By: Ashley Gallegos

12/9/2014 7:45:00 AM

*[Signature]*

Completed By: Ashley Gallegos

12/9/2014 8:10:59 AM

*[Signature]*

Reviewed By:

*[Signature]*

12/09/14

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
  - 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
  - 6. Sample(s) in proper container(s)? Yes  No
  - 7. Sufficient sample volume for indicated test(s)? Yes  No
  - 8. Are samples (except VOA and ONG) properly preserved? Yes  No
  - 9. Was preservative added to bottles? Yes  No  NA
  - 10. VOA vials have zero headspace? Yes  No  No VOA Vials
  - 11. Were any sample containers received broken? Yes  No
  - 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes  No
  - 13. Are matrices correctly identified on Chain of Custody? Yes  No
  - 14. Is it clear what analyses were requested? Yes  No
  - 15. Were all holding times able to be met? (If no, notify customer for authorization.) Yes  No
- # of preserved bottles checked for pH:   
 (<2 or >12 unless noted)   
 Adjusted?   
 Checked by:

**Special Handling (if applicable)**

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

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

17. Additional remarks:

**18. Cooler Information**

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





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

January 14, 2015

Steve Moskal  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX

RE: Ballard C.S.

OrderNo.: 1501337

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 7 sample(s) on 1/10/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-27 N

Project: Ballard C.S.

Collection Date: 1/9/2015 1:32:00 PM

Lab ID: 1501337-001

Matrix: SOIL

Received Date: 1/10/2015 12:40:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/13/2015 6:22:02 PM	17169
Surr: DNOP	88.9	63.5-128		%REC	1	1/13/2015 6:22:02 PM	17169
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.9		mg/Kg	1	1/12/2015 12:52:49 PM	17155
Surr: BFB	98.7	80-120		%REC	1	1/12/2015 12:52:49 PM	17155
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.029		mg/Kg	1	1/12/2015 12:52:49 PM	17155
Toluene	ND	0.029		mg/Kg	1	1/12/2015 12:52:49 PM	17155
Ethylbenzene	ND	0.029		mg/Kg	1	1/12/2015 12:52:49 PM	17155
Xylenes, Total	ND	0.059		mg/Kg	1	1/12/2015 12:52:49 PM	17155
Surr: 4-Bromofluorobenzene	115	80-120		%REC	1	1/12/2015 12:52:49 PM	17155

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates      Client Sample ID: SC-28 S  
 Project: Ballard C.S.      Collection Date: 1/9/2015 1:35:00 PM  
 Lab ID: 1501337-002      Matrix: SOIL      Received Date: 1/10/2015 12:40:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	250	10		mg/Kg	1	1/13/2015 6:52:19 PM	17169
Surr: DNOP	79.9	63.5-128		%REC	1	1/13/2015 6:52:19 PM	17169
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	11	2.8		mg/Kg	1	1/12/2015 1:21:36 PM	17155
Surr: BFB	213	80-120	S	%REC	1	1/12/2015 1:21:36 PM	17155
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.028		mg/Kg	1	1/12/2015 1:21:36 PM	17155
Toluene	ND	0.028		mg/Kg	1	1/12/2015 1:21:36 PM	17155
Ethylbenzene	ND	0.028		mg/Kg	1	1/12/2015 1:21:36 PM	17155
Xylenes, Total	0.12	0.056		mg/Kg	1	1/12/2015 1:21:36 PM	17155
Surr: 4-Bromofluorobenzene	122	80-120	S	%REC	1	1/12/2015 1:21:36 PM	17155

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 2 of 10
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-29 NE

**Project:** Ballard C.S.

**Collection Date:** 1/9/2015 1:38:00 PM

**Lab ID:** 1501337-003

**Matrix:** SOIL

**Received Date:** 1/10/2015 12:40:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	950	9.9		mg/Kg	1	1/13/2015 8:23:27 PM	17169
Surr: DNOP	105	63.5-128		%REC	1	1/13/2015 8:23:27 PM	17169
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	920	130		mg/Kg	50	1/12/2015 12:37:20 PM	R23589
Surr: BFB	154	80-120	S	%REC	50	1/12/2015 12:37:20 PM	R23589
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	1.3	0.13		mg/Kg	5	1/12/2015 10:57:41 AM	17155
Toluene	0.32	0.13		mg/Kg	5	1/12/2015 10:57:41 AM	17155
Ethylbenzene	7.0	0.13		mg/Kg	5	1/12/2015 10:57:41 AM	17155
Xylenes, Total	65	2.7		mg/Kg	50	1/12/2015 12:37:20 PM	R23589
Surr: 4-Bromofluorobenzene	240	80-120	S	%REC	5	1/12/2015 10:57:41 AM	17155

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 3 of 10
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-30 SE

Project: Ballard C.S.

Collection Date: 1/9/2015 1:40:00 PM

Lab ID: 1501337-004

Matrix: SOIL

Received Date: 1/10/2015 12:40:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	1600	100		mg/Kg	10	1/13/2015 9:54:37 PM	17169
Surr: DNOP	0	63.5-128	S	%REC	10	1/13/2015 9:54:37 PM	17169
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	6.2	2.9		mg/Kg	1	1/12/2015 1:50:25 PM	17155
Surr: BFB	149	80-120	S	%REC	1	1/12/2015 1:50:25 PM	17155
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.029		mg/Kg	1	1/12/2015 1:50:25 PM	17155
Toluene	ND	0.029		mg/Kg	1	1/12/2015 1:50:25 PM	17155
Ethylbenzene	ND	0.029		mg/Kg	1	1/12/2015 1:50:25 PM	17155
Xylenes, Total	ND	0.058		mg/Kg	1	1/12/2015 1:50:25 PM	17155
Surr: 4-Bromofluorobenzene	115	80-120		%REC	1	1/12/2015 1:50:25 PM	17155

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates **Client Sample ID:** SC-31 W  
**Project:** Ballard C.S. **Collection Date:** 1/9/2015 1:41:00 PM  
**Lab ID:** 1501337-005 **Matrix:** SOIL **Received Date:** 1/10/2015 12:40:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	56	9.8		mg/Kg	1	1/13/2015 11:25:00 PM	17169
Surr: DNOP	87.2	63.5-128		%REC	1	1/13/2015 11:25:00 PM	17169
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	1/12/2015 2:19:12 PM	17155
Surr: BFB	102	80-120		%REC	1	1/12/2015 2:19:12 PM	17155
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	1/12/2015 2:19:12 PM	17155
Toluene	ND	0.032		mg/Kg	1	1/12/2015 2:19:12 PM	17155
Ethylbenzene	ND	0.032		mg/Kg	1	1/12/2015 2:19:12 PM	17155
Xylenes, Total	ND	0.063		mg/Kg	1	1/12/2015 2:19:12 PM	17155
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	1/12/2015 2:19:12 PM	17155

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-32 Base

Project: Ballard C.S.

Collection Date: 1/9/2015 1:42:00 PM

Lab ID: 1501337-006

Matrix: SOIL

Received Date: 1/10/2015 12:40:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: JME
Diesel Range Organics (DRO)	360	9.9		mg/Kg	1	1/14/2015 12:54:54 AM	17169
Surr: DNOP	99.6	63.5-128		%REC	1	1/14/2015 12:54:54 AM	17169
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	170	28		mg/Kg	10	1/12/2015 1:04:46 PM	R23589
Surr: BFB	187	80-120	S	%REC	10	1/12/2015 1:04:46 PM	R23589
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	0.12	0.11		mg/Kg	4	1/12/2015 11:26:23 AM	17155
Toluene	0.87	0.11		mg/Kg	4	1/12/2015 11:26:23 AM	17155
Ethylbenzene	0.88	0.11		mg/Kg	4	1/12/2015 11:26:23 AM	17155
Xylenes, Total	7.0	0.56		mg/Kg	10	1/12/2015 1:04:46 PM	R23589
Surr: 4-Bromofluorobenzene	142	80-120	S	%REC	4	1/12/2015 11:26:23 AM	17155

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Analytical Report

Lab Order 1501337

Date Reported: 1/14/2015

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-33 Grab

**Project:** Ballard C.S.

**Collection Date:** 1/9/2015 1:45:00 PM

**Lab ID:** 1501337-007

**Matrix:** SOIL

**Received Date:** 1/10/2015 12:40:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/14/2015 2:25:44 AM	17169
Surr: DNOP	90.5	63.5-128		%REC	1	1/14/2015 2:25:44 AM	17169
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	16	2.5		mg/Kg	1	1/12/2015 2:47:55 PM	17155
Surr: BFB	148	80-120	S	%REC	1	1/12/2015 2:47:55 PM	17155
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.041	0.025		mg/Kg	1	1/12/2015 2:47:55 PM	17155
Toluene	ND	0.025		mg/Kg	1	1/12/2015 2:47:55 PM	17155
Ethylbenzene	0.053	0.025		mg/Kg	1	1/12/2015 2:47:55 PM	17155
Xylenes, Total	0.31	0.051		mg/Kg	1	1/12/2015 2:47:55 PM	17155
Surr: 4-Bromofluorobenzene	120	80-120	S	%REC	1	1/12/2015 2:47:55 PM	17155

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 7 of 10
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RI Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

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

WO#: 1501337  
 14-Jan-15

**Client:** Souder, Miller and Associates  
**Project:** Ballard C.S.

Sample ID: <b>MB-17169</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>17169</b>	RunNo: <b>23580</b>								
Prep Date: <b>1/12/2015</b>	Analysis Date: <b>1/12/2015</b>	SeqNo: <b>696520</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	8.6		10.00		86.2	63.5	128			

Sample ID: <b>LCS-17169</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>17169</b>	RunNo: <b>23634</b>								
Prep Date: <b>1/12/2015</b>	Analysis Date: <b>1/13/2015</b>	SeqNo: <b>697804</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	105	67.8	130			
Surr: DNOP	4.4		5.000		87.8	63.5	128			

Sample ID: <b>LCS-17189</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>17189</b>	RunNo: <b>23634</b>								
Prep Date: <b>1/13/2015</b>	Analysis Date: <b>1/14/2015</b>	SeqNo: <b>697805</b>	Units: <b>%REC</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.7		5.000		74.1	63.5	128			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1501337

14-Jan-15

**Client:** Souder, Miller and Associates  
**Project:** Ballard C.S.

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R23589</b>	RunNo:	<b>23589</b>					
Prep Date:		Analysis Date:	<b>1/12/2015</b>	SeqNo:	<b>697022</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		88.1	80	120			

Sample ID	<b>2.5UG GRO LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R23589</b>	RunNo:	<b>23589</b>					
Prep Date:		Analysis Date:	<b>1/12/2015</b>	SeqNo:	<b>697023</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	84.4	65.8	139			
Surr: BFB	910		1000		90.6	80	120			

Sample ID	<b>MB-17155</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>17155</b>	RunNo:	<b>23591</b>					
Prep Date:	<b>1/9/2015</b>	Analysis Date:	<b>1/12/2015</b>	SeqNo:	<b>697041</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		93.9	80	120			

Sample ID	<b>LCS-17155</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>17155</b>	RunNo:	<b>23591</b>					
Prep Date:	<b>1/9/2015</b>	Analysis Date:	<b>1/12/2015</b>	SeqNo:	<b>697042</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	111	65.8	139			
Surr: BFB	1100		1000		108	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1501337

14-Jan-15

**Client:** Souder, Miller and Associates  
**Project:** Ballard C.S.

Sample ID <b>5ML RB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>R23589</b>		RunNo: <b>23589</b>							
Prep Date:	Analysis Date: <b>1/12/2015</b>		SeqNo: <b>697028</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID <b>100NG BTEX LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>R23589</b>		RunNo: <b>23589</b>							
Prep Date:	Analysis Date: <b>1/12/2015</b>		SeqNo: <b>697029</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	3.2	0.10	3.000	0	107	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID <b>LCS-17131</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>17131</b>		RunNo: <b>23589</b>							
Prep Date: <b>1/8/2015</b>	Analysis Date: <b>1/12/2015</b>		SeqNo: <b>697032</b>		Units: <b>%REC</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		115	80	120			

Sample ID <b>MB-17155</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>17155</b>		RunNo: <b>23591</b>							
Prep Date: <b>1/9/2015</b>	Analysis Date: <b>1/12/2015</b>		SeqNo: <b>697081</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID <b>LCS-17155</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>17155</b>		RunNo: <b>23591</b>							
Prep Date: <b>1/9/2015</b>	Analysis Date: <b>1/12/2015</b>		SeqNo: <b>697082</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	105	80	120			
Toluene	1.1	0.050	1.000	0	112	80	120			
Ethylbenzene	1.1	0.050	1.000	0	114	80	120			
Xylenes, Total	3.4	0.10	3.000	0	112	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1501337

RcptNo: 1

Received by/date: AT 01/10/15

Logged By: Anne Thorne 1/10/2015 12:40:00 PM *Anne Thorne*

Completed By: Anne Thorne 1/12/2015 *Anne Thorne*

Reviewed By: *[Signature]* 1/12/15

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and QNG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

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

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

17. Additional remarks:

**18. Cooler Information**

Cooler No.	Temp °C	Condition	Seal Intact	Seal No.	Seal Date	Signed By
1	1.4	Good	Yes			

# Chain-of-Custody Record

Client: SMA

Turn-Around Time:  
 Standard  Rush Same Day

Mailing Address: 401 Broadway  
Farmington, NM, 87401

Project Name: Ballard C.S.

Phone #: 605 325 7535

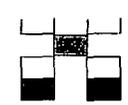
Project #: 5122 855

email or Fax#: Steve.moskal@Saudernillo.com  
 QA/QC Package:  
 Standard  Level 4 (Full Validation)

Project Manager: Steve Moskal

Accreditation  
 NELAP  Other \_\_\_\_\_  
 EDD (Type) \_\_\_\_\_

Sampler: J.S.  
 On Ice  No  
 Sample Temperature: 4



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com  
 4901 Hawkins NE - Albuquerque, NM 87109  
 Tel. 505-345-3975 Fax 505-345-4107

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO) (8021)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Ruthles (Y or N)
1/9/15	1332	Soil	SC-27 N	1 qt non-kill	MeOH	1501337 -001	X	X	X									
	1335		SC-28 S			-002	X	X										
	1338		SC-29 NE			-003	X	X										
	1340		SC-30 SE			-004	X	X										
	1341		SC-31 W			-005	X	X										
	1342		SC-32 Base			-006	X	X										
	1345		SC-33 Grab			-007	X	X										

Date: 1/9/15	Time: 1633	Relinquished by: <u>[Signature]</u>	Received by: <u>Christa Walt</u>	Date: 1/9/15	Time: 1633
Date: 1/9/15	Time: 1740	Relinquished by: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Date: 01/10/15	Time: 1240

Remarks: Invoice: Enterprise  
Pls copy Alicia.patterson@saudernillo.com  
Jesse.sprague@saudernillo.com

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



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

January 20, 2015

Steve Moskal  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX

RE: Ballard CS

OrderNo.: 1501572

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 6 sample(s) on 1/17/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates      **Client Sample ID:** SC-33 N  
**Project:** Ballard CS      **Collection Date:** 1/16/2015 1:00:00 PM  
**Lab ID:** 1501572-001      **Matrix:** MEOH (SOIL)      **Received Date:** 1/17/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>WL</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/19/2015 1:22:33 PM	17278
Surr: DNOP	84.9	63.5-128		%REC	1	1/19/2015 1:22:33 PM	17278
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	1/17/2015 3:40:35 PM	17258
Surr: BFB	93.8	80-120		%REC	1	1/17/2015 3:40:35 PM	17258
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.033		mg/Kg	1	1/17/2015 3:40:35 PM	17258
Toluene	ND	0.033		mg/Kg	1	1/17/2015 3:40:35 PM	17258
Ethylbenzene	ND	0.033		mg/Kg	1	1/17/2015 3:40:35 PM	17258
Xylenes, Total	ND	0.067		mg/Kg	1	1/17/2015 3:40:35 PM	17258
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	1/17/2015 3:40:35 PM	17258

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 1 of 9
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-34 S

Project: Ballard CS

Collection Date: 1/16/2015 1:05:00 PM

Lab ID: 1501572-002

Matrix: MEOH (SOIL)

Received Date: 1/17/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>WL</b>
Diesel Range Organics (DRO)	36	10		mg/Kg	1	1/19/2015 12:10:41 PM	17278
Surr: DNOP	91.7	63.5-128		%REC	1	1/19/2015 12:10:41 PM	17278
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	6.2	3.0		mg/Kg	1	1/17/2015 4:09:22 PM	17258
Surr: BFB	141	80-120	S	%REC	1	1/17/2015 4:09:22 PM	17258
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.030		mg/Kg	1	1/17/2015 4:09:22 PM	17258
Toluene	ND	0.030		mg/Kg	1	1/17/2015 4:09:22 PM	17258
Ethylbenzene	0.032	0.030		mg/Kg	1	1/17/2015 4:09:22 PM	17258
Xylenes, Total	0.31	0.061		mg/Kg	1	1/17/2015 4:09:22 PM	17258
Surr: 4-Bromofluorobenzene	116	80-120		%REC	1	1/17/2015 4:09:22 PM	17258

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-35 E

Project: Ballard CS

Collection Date: 1/16/2015 1:10:00 PM

Lab ID: 1501572-003

Matrix: MEOH (SOIL)

Received Date: 1/17/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>WL</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/19/2015 2:07:56 PM	17278
Surr: DNOP	92.4	63.5-128		%REC	1	1/19/2015 2:07:56 PM	17278
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	1/17/2015 4:38:10 PM	17258
Surr: BFB	93.5	80-120		%REC	1	1/17/2015 4:38:10 PM	17258
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.030		mg/Kg	1	1/17/2015 4:38:10 PM	17258
Toluene	ND	0.030		mg/Kg	1	1/17/2015 4:38:10 PM	17258
Ethylbenzene	ND	0.030		mg/Kg	1	1/17/2015 4:38:10 PM	17258
Xylenes, Total	ND	0.060		mg/Kg	1	1/17/2015 4:38:10 PM	17258
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	1/17/2015 4:38:10 PM	17258

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates **Client Sample ID:** SC-36 Base (East)  
**Project:** Ballard CS **Collection Date:** 1/16/2015 1:15:00 PM  
**Lab ID:** 1501572-004 **Matrix:** MEOH (SOIL) **Received Date:** 1/17/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>WL</b>
Diesel Range Organics (DRO)	640	9.9		mg/Kg	1	1/19/2015 2:29:35 PM	17278
Surr: DNOP	86.2	63.5-128		%REC	1	1/19/2015 2:29:35 PM	17278
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	740	33		mg/Kg	10	1/17/2015 5:06:57 PM	17258
Surr: BFB	697	80-120	S	%REC	10	1/17/2015 5:06:57 PM	17258
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.44	0.33		mg/Kg	10	1/17/2015 5:06:57 PM	17258
Toluene	ND	0.33		mg/Kg	10	1/17/2015 5:06:57 PM	17258
Ethylbenzene	3.7	0.33		mg/Kg	10	1/17/2015 5:06:57 PM	17258
Xylenes, Total	40	0.66		mg/Kg	10	1/17/2015 5:06:57 PM	17258
Surr: 4-Bromofluorobenzene	158	80-120	S	%REC	10	1/17/2015 5:06:57 PM	17258

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-37 Overburden

Project: Ballard CS

Collection Date: 1/16/2015 1:20:00 PM

Lab ID: 1501572-005

Matrix: MEOH (SOIL)

Received Date: 1/17/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>WL</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/19/2015 3:12:59 PM	17278
Surr: DNOP	85.9	63.5-128		%REC	1	1/19/2015 3:12:59 PM	17278
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	1/17/2015 5:35:40 PM	17258
Surr: BFB	96.7	80-120		%REC	1	1/17/2015 5:35:40 PM	17258
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.033		mg/Kg	1	1/17/2015 5:35:40 PM	17258
Toluene	ND	0.033		mg/Kg	1	1/17/2015 5:35:40 PM	17258
Ethylbenzene	ND	0.033		mg/Kg	1	1/17/2015 5:35:40 PM	17258
Xylenes, Total	ND	0.065		mg/Kg	1	1/17/2015 5:35:40 PM	17258
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	1/17/2015 5:35:40 PM	17258

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-38 Pad

Project: Ballard CS

Collection Date: 1/16/2015 1:25:00 PM

Lab ID: 1501572-006

Matrix: MEOH (SOIL)

Received Date: 1/17/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>WL</b>
Diesel Range Organics (DRO)	11	10		mg/Kg	1	1/19/2015 3:34:32 PM	17278
Surr: DNOP	90.1	63.5-128		%REC	1	1/19/2015 3:34:32 PM	17278
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.9		mg/Kg	1	1/17/2015 6:04:27 PM	17258
Surr: BFB	95.5	80-120		%REC	1	1/17/2015 6:04:27 PM	17258
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.029		mg/Kg	1	1/17/2015 6:04:27 PM	17258
Toluene	ND	0.029		mg/Kg	1	1/17/2015 6:04:27 PM	17258
Ethylbenzene	ND	0.029		mg/Kg	1	1/17/2015 6:04:27 PM	17258
Xylenes, Total	ND	0.058		mg/Kg	1	1/17/2015 6:04:27 PM	17258
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	1/17/2015 6:04:27 PM	17258

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1501572

20-Jan-15

**Client:** Souder, Miller and Associates

**Project:** Ballard CS

Sample ID: <b>MB-17278</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>17278</b>	RunNo: <b>23738</b>								
Prep Date: <b>1/19/2015</b>	Analysis Date: <b>1/19/2015</b>	SeqNo: <b>700476</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	8.4		10.00		83.6	63.5	128			

Sample ID: <b>LCS-17278</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>17278</b>	RunNo: <b>23738</b>								
Prep Date: <b>1/19/2015</b>	Analysis Date: <b>1/19/2015</b>	SeqNo: <b>700477</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.6	67.8	130			
Surr: DNOP	4.3		5.000		85.7	63.5	128			

Sample ID: <b>1501572-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>								
Client ID: <b>SC-33 N</b>	Batch ID: <b>17278</b>	RunNo: <b>23738</b>								
Prep Date: <b>1/19/2015</b>	Analysis Date: <b>1/19/2015</b>	SeqNo: <b>700677</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	35	9.9	49.50	7.019	55.8	29.2	176			
Surr: DNOP	4.5		4.950		91.8	63.5	128			

Sample ID: <b>1501572-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>								
Client ID: <b>SC-33 N</b>	Batch ID: <b>17278</b>	RunNo: <b>23738</b>								
Prep Date: <b>1/19/2015</b>	Analysis Date: <b>1/19/2015</b>	SeqNo: <b>700822</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	37	9.8	49.07	7.019	60.3	29.2	176	5.63	23	
Surr: DNOP	4.9		4.907		99.3	63.5	128	0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

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

WO#: 1501572  
 20-Jan-15

**Client:** Souder, Miller and Associates  
**Project:** Ballard CS

Sample ID: <b>MB-17258</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>17258</b>	RunNo: <b>23723</b>								
Prep Date: <b>1/16/2015</b>	Analysis Date: <b>1/17/2015</b>	SeqNo: <b>700165</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		93.8	80	120			

Sample ID: <b>LCS-17258</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>17258</b>	RunNo: <b>23723</b>								
Prep Date: <b>1/16/2015</b>	Analysis Date: <b>1/17/2015</b>	SeqNo: <b>700175</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.8	65.8	139			
Surr: BFB	990		1000		98.9	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1501572

20-Jan-15

Client: Souder, Miller and Associates

Project: Ballard CS

Sample ID	<b>MB-17258</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>17258</b>	RunNo:	<b>23723</b>					
Prep Date:	<b>1/16/2015</b>	Analysis Date:	<b>1/17/2015</b>	SeqNo:	<b>700212</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID	<b>LCS-17258</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>17258</b>	RunNo:	<b>23723</b>					
Prep Date:	<b>1/16/2015</b>	Analysis Date:	<b>1/17/2015</b>	SeqNo:	<b>700213</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	101	80	120			
Toluene	0.96	0.050	1.000	0	96.2	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1501572

RcptNo: 1

Received by/date: *[Signature]* 01/17/15

Logged By: Lindsay Mangin 1/17/2015 8:00:00 AM *[Signature]*

Completed By: Lindsay Mangin 1/17/2015 8:23:33 AM *[Signature]*

Reviewed By: Nick Bliss 1/17/15 @ 10:50

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

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

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

17. Additional remarks:

**18. Cooler Information**

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

# Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W Broadway  
Farmington, NM 87401

Phone #: 505 325 7535

Email or Fax#: Steve Mosk@SandsMiller.com

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

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

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

Turn-Around Time:  
 Standard  Rush Some day

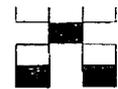
Project Name: Ballard CS

Project #: 5122855

Project Manager: Steve Mosk - 1

Sampler: J. Sprague  
On Ice:  Yes  No

Sample Temperature: 1.6



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	<del>MTBE</del> BTEX's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
1/6	1300	Soil	SC-33 D	1.6oz Meal kit	FlouH	1501572 -001	X	X	X									
	1305		SC-34 S			-002	X	X	X									
	1310		SC-35 E			-003	X	X	X									
	1315		SC-36 Base (East)			-004	X	X	X									
	1320		SC-37 overburden			-005	X	X	X									
	1325		SC-38 Pad			-006	X	X	X									

Date: 1/16/15 Time: 1732 Relinquished by: [Signature]

Received by: [Signature] Date: 1/16/15 Time: 1732

Remarks: Bill Enterprise

Date: 1/15 Time: 1757 Relinquished by: [Signature]

Received by: [Signature] Date: 01/17/15 Time: 0800

Please Copy Jesse Sprague @ sandsmiller.com

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

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

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

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: Brookhaven A2 Release Site	Facility Type: Natural Gas Gathering Line
Surface Owner: Navajo Nation	Mineral Owner: Navajo Nation
API No.	

**LOCATION OF RELEASE**

Unit Letter K	Section 29	Township 25N	Range 10W	Feet from the 1668	North <u>South</u> Line	Feet from the 2211	East <u>West</u> Line	County San Juan
------------------	---------------	-----------------	--------------	--------------------------	----------------------------	--------------------------	--------------------------	--------------------

Latitude 36.369382 Longitude -107.921407

**NATURE OF RELEASE**

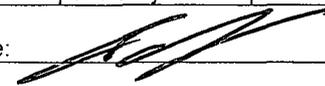
Type of Release: Natural Gas	Volume of Release 32.78 MCF Gas; No Liquids Released	Volume Recovered: None
Source of Release: Internal Corrosion	Date and Hour of Occurrence: 1/18/2015 @ 9:34 a.m.	Date and Hour of Discovery: 1/18/2015 @ 9:34 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy Notification to Cory Smith - NMOCD; Steve Austin - NNEPA	
By Whom? Thomas Long	Date and Hour 1/30/2015 @ 8:07 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 January 18, 2015, Enterprise technicians confirmed a release on the Brookhaven A2 pipeline. The pipeline was isolated, de-pressurized and lock out tag out was applied. Repairs were completed on February 3, 2015.

Describe Area Affected and Cleanup Action: A third party environmental contractor conducted an investigation during the repair activities. The investigation indicated that the natural gas release caused no subsurface impacts. Soil excavated during repair activities was used as backfill. A third party investigation report is included with this "Final." C-141.

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

Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Ivan W. Zirbes	Approved by Environmental Specialist: 	
Title: Sr. Director, Environmental	Approval Date: 4/30/15	Expiration Date:
E-mail Address: snolan@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 3-12-2015	Phone: (713)381-6595	

\* Attach Additional Sheets If Necessary

#NCS 150 7248459

42  
41

**Enterprise Products  
Brookhaven A2 Well Tie Pipeline Release  
Latitude North 36.369382°, Longitude West -107.921407°  
NE/SW (Unit K) Section 29, T25N R10W  
San Juan County, New Mexico  
February 20, 2015**



**Submitted To:**  
Enterprise Products  
Field Environmental-San Juan Basin  
614 Reilly Avenue  
Farmington, NM 87401

**Submitted By:**  
Souder, Miller & Associates  
401 West Broadway  
Farmington, NM 87401  
(505) 325-7535



## Table of Contents

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### Figures:

Figure 1: Vicinity Map

Figure 2: Site Map

Figure 3: Soil Contaminant Concentration Map

### Tables:

Table 1: Release Information

Table 2: Site Ranking

Table 3: Summary of Laboratory Analysis

### Appendices:

Appendix A: Photographic Documentation

Appendix B: Laboratory Analytical Reports

## 1.0 Executive Summary

On February 2 and 3, 2015, Souder, Miller & Associates (SMA) responded to oversee the excavation of the hydrocarbon release associated with the Brookhaven A2 well tie pipeline. The release was initially reported on January 18, 2015 and is a result of corrosion of the six inch natural gas pipeline. The table below summarizes information about the pipeline remediation activities.

TABLE 1: RELEASE INFORMATION					
Name	Brookhaven A2 Well Tie Pipeline Release				
Location	Latitude/Longitude		Section, Township, Range		
		36.369382°	-107.921407°	Unit K	Section 29
Date Reported to SMA	January 18, 2015				
Reported to	Tom Long				
Land Owner	Navajo Nation				
Reported To	NM Oil Conservation Division (NMOCD) and NNEPA				
Diameter of Pipeline	6 inches				
Source of Release	Corrosion				
Release Contents	Natural Gas				
Release Volume	Unknown				
Nearest Waterway	Approximately 1,190 feet north of an unnamed surface water pond.				
Depth to Groundwater	Greater than 200 feet to groundwater reported in a well log located approximately 2.7 miles NE of the release site (POD# SJ 01715)				
Nearest Domestic Water Source	Nearest Well (SJ01715) approximately 2.7 miles NE with depth to water ~250'.				
NMOCD Ranking	0				
SMA Response Dates	2/2/2015 and 2/3/2015				
Subcontractors	West States Energy Contractors (WSEC)				
Disposal Facility	Envirotech Landfarm				
Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	0				

## 2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes remediation of a hydrocarbon release associated with the Brookhaven A2 well tie pipeline release site. The site is located in the NE ¼ SW ¼ Section 29, T25N, R10W, San Juan County, 36.369382°, -107.921407°, San Juan County, New Mexico on land owned by Navajo Nation. Figure 1 illustrates the location of the site.

## 3.0 Site Ranking and Land Jurisdiction

The release site is located on the Navajo Nation with an elevation of approximately 6,743 feet above sea level. After evaluation of the site using aerial photography and topographic maps,

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and searching the New Mexico Office of the State Engineer's database, depth to groundwater is estimated to be greater than 100 feet below ground surface (bgs). Figure 1 depicts the site vicinity and Figure 2 depicts the site location.

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No wells were located within 1,000 feet or 1 mile radius of the site. The nearest Well (SJ01715) is approximately 2.7 miles NE with depth to water of approximately 250'. The physical location of this release is within the jurisdiction of the NMOCD and the Navajo Nation.

This release location has been assigned a NMOCD ranking of 0 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 5,000 ppm total petroleum hydrocarbons (TPH). However, the Navajo Nation Environmental Protection Agency (NNEPA) defaults to the most stringent levels for contaminants of concern and requires soil remediation standards of 10 ppm benzene, 50 ppm combined BTEX, and 100 ppm TPH. Table 2 illustrates site ranking rationale.

#### **4.0 Summary of Field Activities**

On February 2 and 3, 2015, Souder, Miller & Associates (SMA) responded to a hydrocarbon release associated with the Brookhaven A2 well tie pipeline release. Excavation of the pipeline began on February 2, 2015 for pipeline repairs. SMA field screened the excavated soil stockpiles, the walls and base of the excavation with a calibrated photoionization detector (PID) equipped with a 10.6 electron volt bulb to determine the extent of the release.

The pipeline trends generally north-south in the area of the release and the excavation was elongated in that direction. Field screening indicated the excavation had exceeded the extent of the hydrocarbon contamination. The final excavation for repairs measured approximately 60 feet long by 9 feet wide by 5 feet deep, covering an area of approximately 540 square feet. Field screening and laboratory analysis indicated that the soils from the excavation were suitable for use as backfill material. Following laboratory confirmation, the excavation was completely backfilled on February 5, 2015.

Soil samples were initially field screened. Samples were submitted for confirmation laboratory analysis per United States Environmental Protection Agency Methods: 8021 for BTEX and 8015 for diesel and gasoline range organics (DRO/GRO) or combined as TPH. All samples were analyzed by Hall Environmental Analytical Laboratory in Albuquerque, New Mexico. Figure 3 illustrates the extent of the excavation and composite soil sample locations and laboratory results.

#### **5.0 Conclusions and Recommendations**

Navajo Nation Environmental Protection Agency (NNEPA) requires soil remediation standards of 10 ppm benzene, 50 ppm combined BTEX, and 100 ppm TPH. Laboratory analysis of SC-1 N and SC-9 N Base were below the NNEPA remediation standards with a detection of 22 mg/kg

---

DRO and 11 mg/kg DRO respectively. All other samples collected from the excavation were below laboratory detection limits.

Three samples, SC-11 SE Stockpile, SC-12 NE Stockpile, and SC-13 W Stockpile, were collected from the soil stockpiled from the excavation. All samples collected from the stockpiles were below laboratory detection limits. The stockpiles were used to backfill the excavation.

Soil contaminant concentrations are illustrated in Figure 3. A summary of laboratory analysis is included in Table 3. Laboratory reports are included in Appendix B

SMA suggests no further action at the Brookhaven A2 Well Tie pipeline release location.

## 6.0 Closure and Limitations

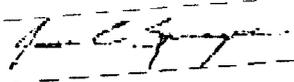
The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, oversight and control of remediation operations, project management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices.

If there are any questions regarding this report, please contact either Steve Moskal or Reid Allen at 505-325-7535.

Submitted by:

Reviewed by:

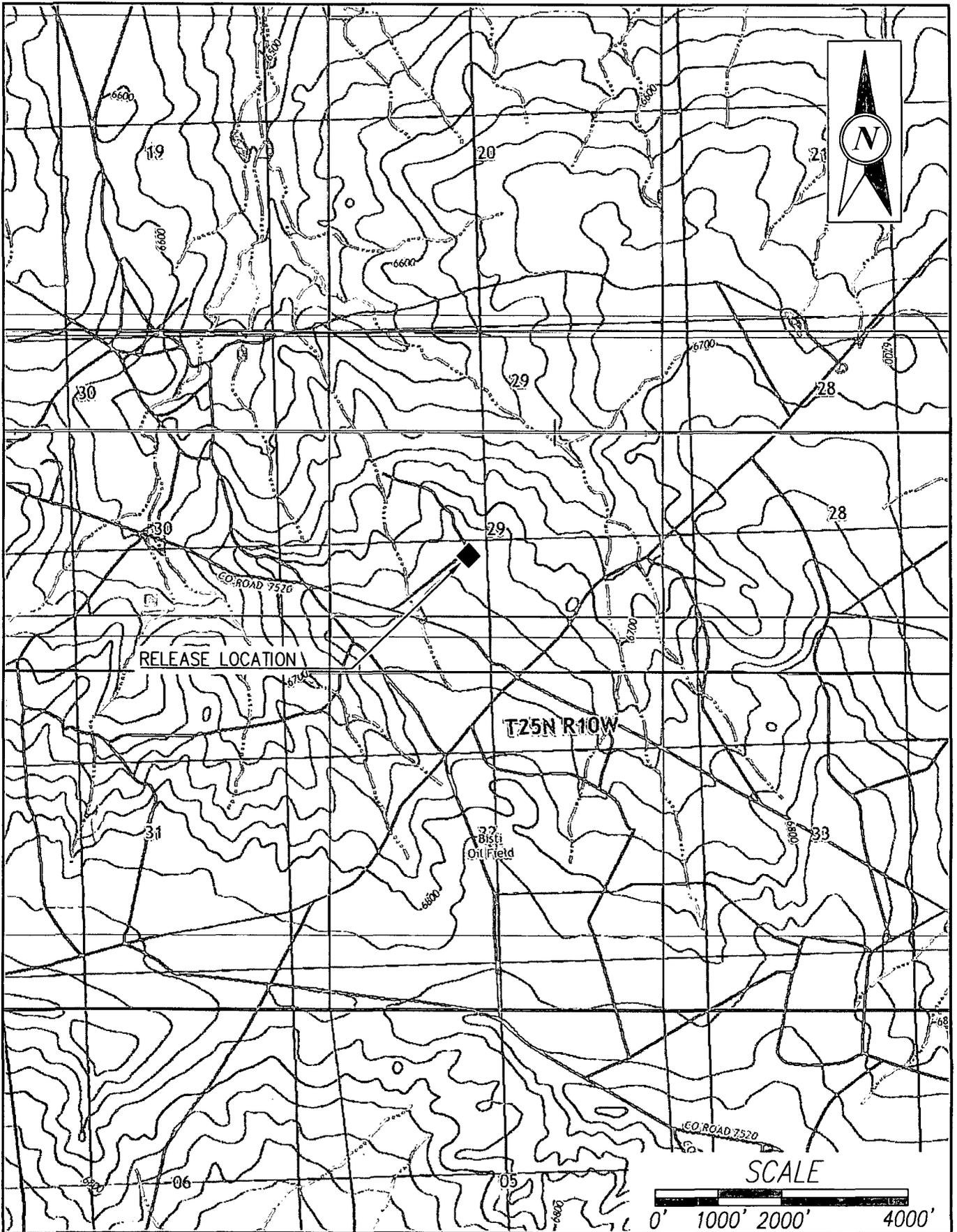
SOUDER, MILLER & ASSOCIATES



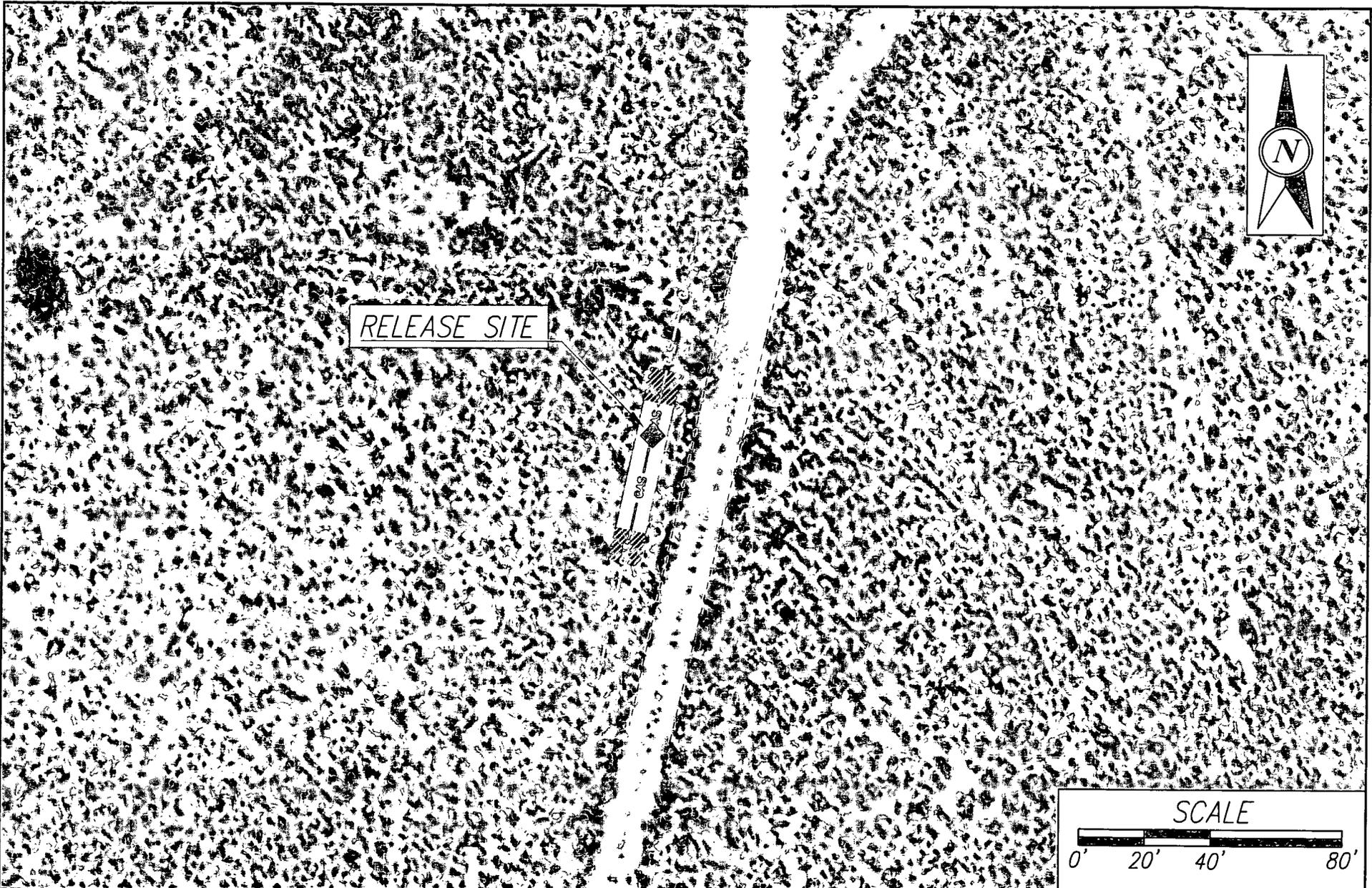
Jesse E. Sprague  
Staff Scientist

Reid S. Allen, P.G.  
Principal Scientist

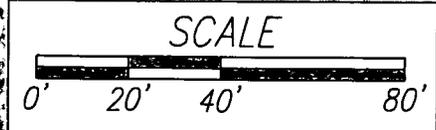
## Figures



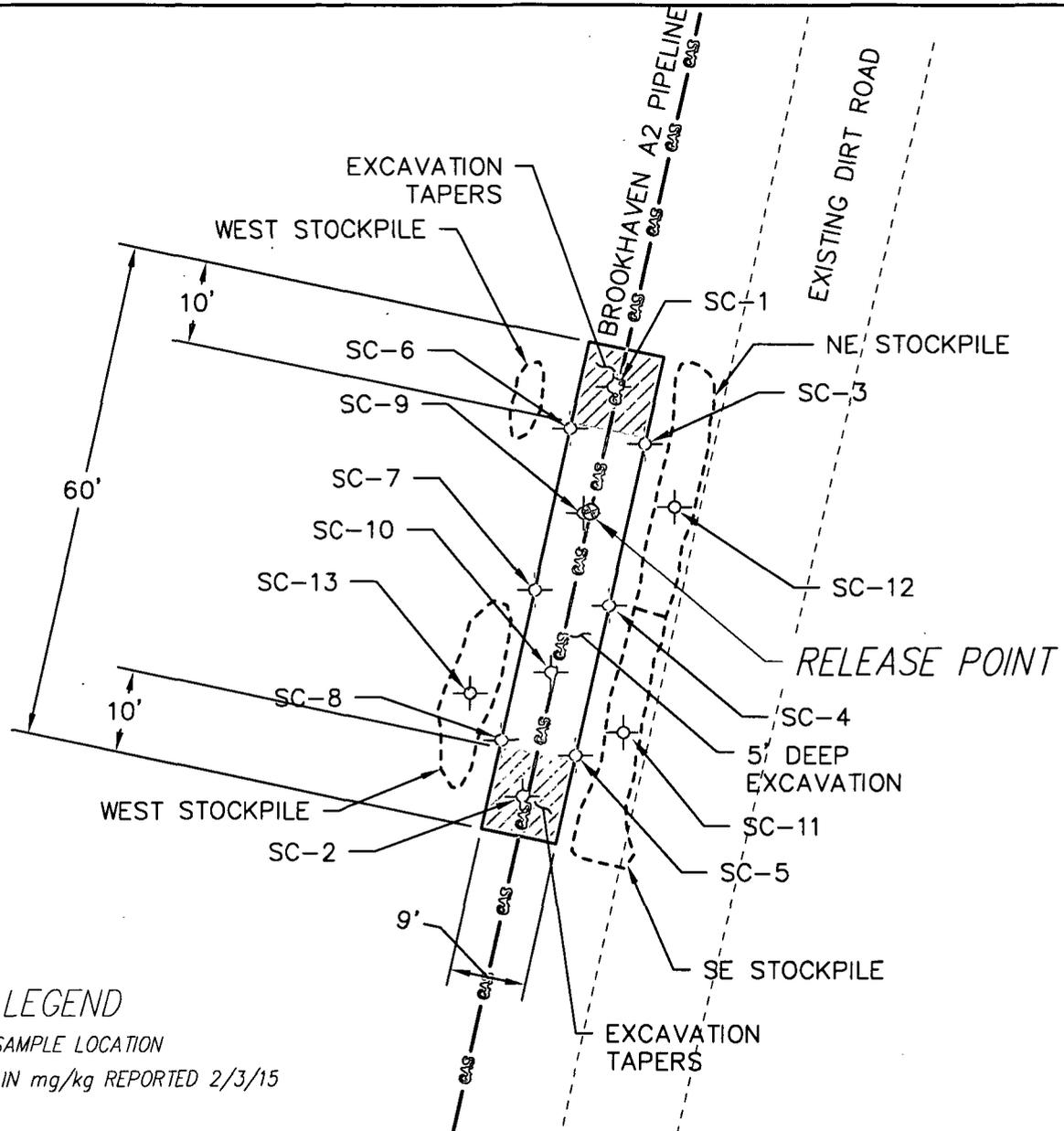
 <p><b>SMA</b> Engineering Environmental Surveying</p>	<p><b>SOUDER, MILLER &amp; ASSOCIATES</b> 401 West Broadway Avenue Farmington, NM 87401-5907</p> <p>Phone (505) 325-7530 Toll-Free (800) 219-0995 Fax (505) 326-0945 www.soudermiller.com</p> <p>Serving the Southwest &amp; Rocky Mountains Albuquerque, Carlsbad, Farmington, Las Cruces, Roswell, Santa Fe, NM - El Paso, TX Cortez - Grand Junction - Montrose, CO - Safford, AZ - Moab, UT</p>	<p>ENTERPRISE FARMINGTON, NEW MEXICO</p>	<table border="1"> <tr> <td>Designed</td> <td>Drawn</td> <td>Checked</td> </tr> <tr> <td>SM</td> <td>DJB</td> <td>RSA</td> </tr> <tr> <td colspan="3">Date: FEBRUARY 4, 2015</td> </tr> <tr> <td colspan="3">Scale: Horiz: 1" = 2000'</td> </tr> <tr> <td colspan="3">Vert: NA</td> </tr> <tr> <td colspan="3">Project No: 5123699</td> </tr> <tr> <td colspan="3">Sheet: 1</td> </tr> </table>	Designed	Drawn	Checked	SM	DJB	RSA	Date: FEBRUARY 4, 2015			Scale: Horiz: 1" = 2000'			Vert: NA			Project No: 5123699			Sheet: 1		
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	Date: FEBRUARY 4, 2015																							
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Project No: 5123699																								
Sheet: 1																								
<p><b>VICINITY MAP</b> <b>BROOKHAVEN A2</b> <b>SECTION 29, T25N, R10W</b></p>																								
<p>SAN JUAN COUNTY, NEW MEXICO</p>																								



RELEASE SITE



	<b>SOUDER, MILLER &amp; ASSOCIATES</b> 401 West Broadway Avenue Farmington, NM 87401-5907 Phone (505) 325-7335 Toll-Free (800) 519-0098 Fax (505) 326-0045 www.soudermiller.com Serving the Southwest & Rocky Mountains Albuquerque, Farmington, Las Cruces, Roswell, Santa Fe, NM - El Paso, TX Cortez - Grand Junction - Montrose, CO - Safford, AZ - Moab, UT	ENTERPRISE           SAN JUAN COUNTY, NEW MEXICO	FARMINGTON, NEW MEXICO	<table border="1"> <tr> <td>Designed SM</td> <td>Drawn DJB</td> <td>Checked RSA</td> </tr> <tr> <td colspan="3">Date: FEBRUARY 4, 2015</td> </tr> <tr> <td colspan="2">Scale: Horiz: 1"=40'</td> <td>Vert: N/A</td> </tr> <tr> <td colspan="3">Project No: 5123699</td> </tr> <tr> <td colspan="3">Sheet: 2</td> </tr> </table>	Designed SM	Drawn DJB	Checked RSA	Date: FEBRUARY 4, 2015			Scale: Horiz: 1"=40'		Vert: N/A	Project No: 5123699			Sheet: 2		
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	Date: FEBRUARY 4, 2015																		
	Scale: Horiz: 1"=40'		Vert: N/A																
	Project No: 5123699																		
Sheet: 2																			
<b>SITE LOCATION MAP</b> <b>BROOKHAVEN A2</b> <b>SECTION 29, T25N, R10W</b>																			



**LEGEND**  
 SOIL SAMPLE LOCATION  
 SOIL RESULTS IN mg/kg REPORTED 2/3/15



**SOUDER, MILLER & ASSOCIATES**  
 401 West Broadway Avenue  
 Farmington, NM 87401-5907  
 Phone (505) 323-7335 Toll-Free (800) 519-0098 Fax (505) 326-0015  
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ENTERPRISE

FARMINGTON, NEW MEXICO

**SOIL CONTAMINANT CONCENTRATION MAP**  
**BROOKHAVEN A2**  
**SECTION 29, T25N, R10W**

SAN JUAN COUNTY, NEW MEXICO

Designed SM	Drawn DJB	Checked RSA
Date: FEBRUARY 4, 2015		
Scale: Horiz: 1"=20' Vert: N/A		
Project No: 5123699		
Sheet: 3		

## **Tables**

Enterprise Products  
Table 2: Site Ranking

Brookhaven A2  
Pipeline Release  
2/20/2015

Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20		Verified using Topographic Maps and Google Earth	Approximately 200 feet to groundwater reported in a well log located approximately 2.7 miles NE of the release site (POD# SJ 01715)
50' to 99' = 10			
>100' = 0	0		
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20		Verified using Topographic Maps and Google Earth	Approximately 1,190 feet north of an unnamed surface water pond.
200' - 1000' = 10			
>1000' = 0	0		
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200' from a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	Accessed NM Water Rights Reporting System	Nearest Well (SJ01715) approximately 2.7 miles NE with depth to water ~250'.
<b>NNEPA DEFAULT RANKING</b>	<b>&gt;19</b>		
<b>Total Site Ranking</b>	<b>0</b>		
<b>Soil Remedation Standards</b>	0 to 9	10 to 19	>19
<b>Benzene</b>	10 PPM	10 PPM	<b>10 PPM</b>
<b>BTEX</b>	50 PPM	50 PPM	<b>50 PPM</b>
<b>TPH</b>	5000 PPM	1000 PPM	<b>100 PPM</b>



Enterprise Products  
 Table 3: Summary of Laboratory Analysis  
 Results in mg/Kg

Brookhaven A2  
 Pipeline Release  
 2/20/2015

Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 0		100 ppm		10 ppm	50 ppm
2/3/2015	9:45	SC-1 N	0-5	<3.9	22	<0.039	<0.078
2/3/2015	9:48	SC-2 S	0-5	<4.1	<9.8	<0.041	<0.081
2/3/2015	9:51	SC-3 NE	0-5	<3.5	<9.8	<0.035	<0.071
2/3/2015	9:54	SC-4 CE	0-5	<9.9	<3.7	<0.037	<0.075
2/3/2015	9:57	SC-5 SE	0-5	<3.3	<9.9	<0.033	<0.066
2/3/2015	10:00	SC-6 NW	0-5	<3.2	<9.8	<0.032	<0.064
2/3/2015	10:03	SC-7 CW	0-5	<2.9	<9.9	<0.029	<0.057
2/3/2015	10:06	SC-8 SW	0-5	<3.1	<9.8	<0.031	<0.061
2/3/2015	10:09	SC-9 N BASE	5	<7.7	11	<0.038	<0.15
2/3/2015	10:12	SC-10 S BASE	5	<3.2	<10	<0.032	<0.065
2/3/2015	10:15	SC-11 SE STOCKPILE	--	<3.5	<9.9	<0.035	<0.070
2/3/2015	10:18	SC-12 NE STOCKPILE	--	<12	<10	<0.062	<0.25
2/3/2015	10:21	SC-13 W STOCKPILE	--	<3.1	<10	<0.031	<0.062

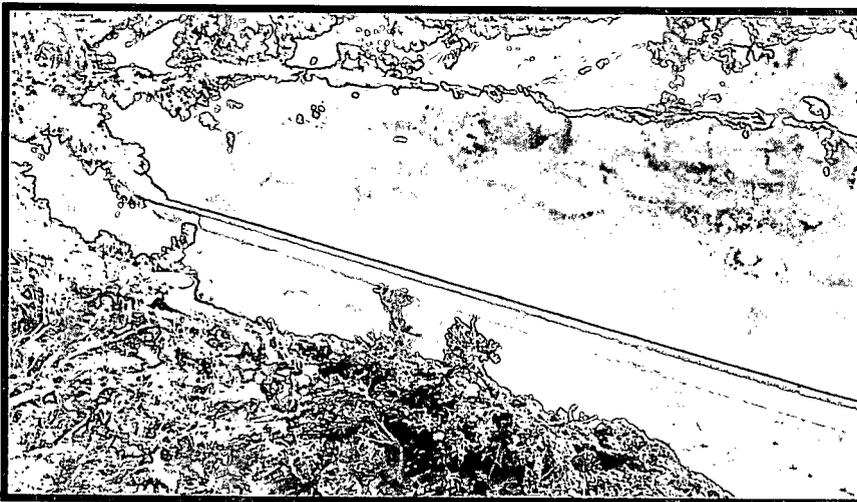


**Appendix A**  
**Photographic Documentation**

**Site Photographs**  
**Enterprise Products Brookhaven A2 Well Tie Pipeline**

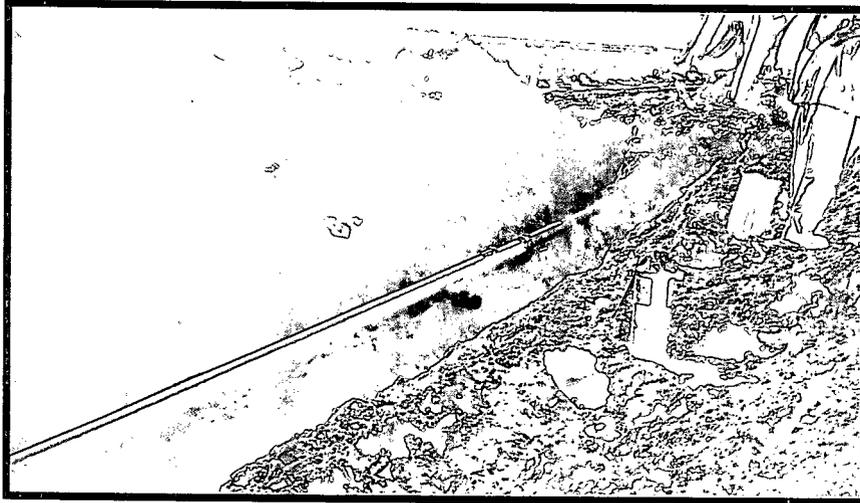


**Photo 1:** Excavation commenced on February 2, 2015, using a rubber tire backhoe operated by West States Energy Contractors

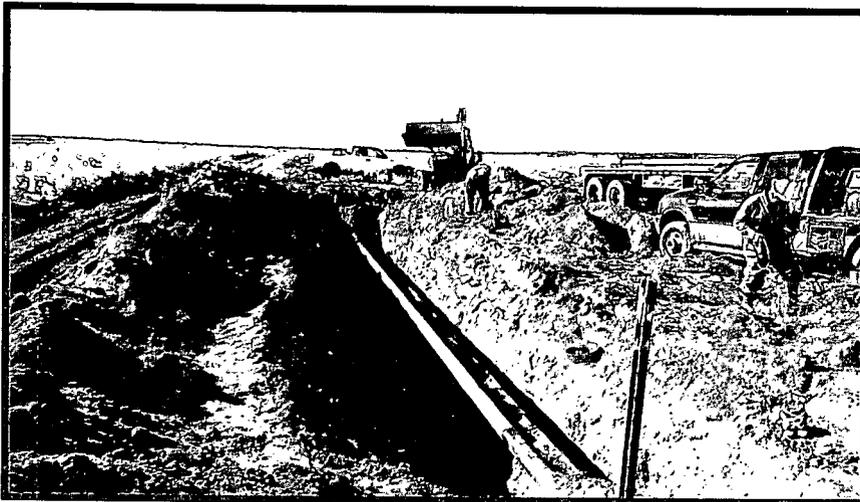


**Photo 2:** An entire 42' joint was pupped into the 6" spiral weld pipe, the release point was located roughly in the center of this photograph, about 10' south of the north (left) weld.

**Site Photographs**  
**Enterprise Products Brookhaven A2 Well Tie Pipeline**



**Photo 3:** The southern half of the replaced section.



**Photo 4:** The entire excavation extents sampled on February 3, 2015. view is to the south.

**Site Photographs**  
**Enterprise Products Brookhaven A2 Well Tie Pipeline**



**Photo 5:** East stockpile in left of picture, view is to south, placing northeast stockpile in foreground, southeast stockpile in distance.



**Photo 6:** West stockpile sample composited both the pile in front of the welding truck (background) and adjacent to the rear tires, in the foreground.

**Appendix B**  
**Laboratory Analytical Report**



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

February 05, 2015

Steve Moskal  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX

RE: Brookhaven A2

OrderNo.: 1502113

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 13 sample(s) on 2/4/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-1 N

Project: Brookhaven A2

Collection Date: 2/3/2015 9:45:00 AM

Lab ID: 1502113-001

Matrix: MEOH (SOIL)

Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: JME
Diesel Range Organics (DRO)	22	9.9		mg/Kg	1	2/4/2015 3:03:15 PM	17554
Surr: DNOP	67.3	63.5-128		%REC	1	2/4/2015 3:03:15 PM	17554
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	2/4/2015 8:53:01 PM	R24097
Surr: BFB	96.2	80-120		%REC	1	2/4/2015 8:53:01 PM	R24097
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.039		mg/Kg	1	2/4/2015 8:53:01 PM	R24097
Toluene	ND	0.039		mg/Kg	1	2/4/2015 8:53:01 PM	R24097
Ethylbenzene	ND	0.039		mg/Kg	1	2/4/2015 8:53:01 PM	R24097
Xylenes, Total	ND	0.078		mg/Kg	1	2/4/2015 8:53:01 PM	R24097
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	2/4/2015 8:53:01 PM	R24097

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-2 S

Project: Brookhaven A2

Collection Date: 2/3/2015 9:48:00 AM

Lab ID: 1502113-002

Matrix: MEOH (SOIL)

Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/4/2015 3:30:27 PM	17554
Surr: DNOP	65.0	63.5-128		%REC	1	2/4/2015 3:30:27 PM	17554
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	2/4/2015 10:20:59 AM	R24097
Surr: BFB	102	80-120		%REC	1	2/4/2015 10:20:59 AM	R24097
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.041		mg/Kg	1	2/4/2015 10:20:59 AM	R24097
Toluene	ND	0.041		mg/Kg	1	2/4/2015 10:20:59 AM	R24097
Ethylbenzene	ND	0.041		mg/Kg	1	2/4/2015 10:20:59 AM	R24097
Xylenes, Total	ND	0.081		mg/Kg	1	2/4/2015 10:20:59 AM	R24097
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	2/4/2015 10:20:59 AM	R24097

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-3 NE

**Project:** Brookhaven A2

**Collection Date:** 2/3/2015 9:51:00 AM

**Lab ID:** 1502113-003

**Matrix:** MEOH (SOIL)

**Received Date:** 2/4/2015 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/5/2015 9:52:47 AM	17554
Surr: DNOP	87.8	63.5-128		%REC	1	2/5/2015 9:52:47 AM	17554
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	2/4/2015 9:21:44 PM	R24097
Surr: BFB	95.7	80-120		%REC	1	2/4/2015 9:21:44 PM	R24097
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.035		mg/Kg	1	2/4/2015 9:21:44 PM	R24097
Toluene	ND	0.035		mg/Kg	1	2/4/2015 9:21:44 PM	R24097
Ethylbenzene	ND	0.035		mg/Kg	1	2/4/2015 9:21:44 PM	R24097
Xylenes, Total	ND	0.071		mg/Kg	1	2/4/2015 9:21:44 PM	R24097
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	2/4/2015 9:21:44 PM	R24097

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 3 of 19
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1502113

Date Reported: 2/5/2015

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-4 CE

**Project:** Brookhaven A2

**Collection Date:** 2/3/2015 9:54:00 AM

**Lab ID:** 1502113-004

**Matrix:** MEOH (SOIL)

**Received Date:** 2/4/2015 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/4/2015 2:32:56 PM	17554
Surr: DNOP	103	63.5-128		%REC	1	2/4/2015 2:32:56 PM	17554
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	2/4/2015 12:16:02 PM	R24097
Surr: BFB	96.2	80-120		%REC	1	2/4/2015 12:16:02 PM	R24097
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.037		mg/Kg	1	2/4/2015 12:16:02 PM	R24097
Toluene	ND	0.037		mg/Kg	1	2/4/2015 12:16:02 PM	R24097
Ethylbenzene	ND	0.037		mg/Kg	1	2/4/2015 12:16:02 PM	R24097
Xylenes, Total	ND	0.075		mg/Kg	1	2/4/2015 12:16:02 PM	R24097
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	2/4/2015 12:16:02 PM	R24097

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 4 of 19
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-5 SE

Project: Brookhaven A2

Collection Date: 2/3/2015 9:57:00 AM

Lab ID: 1502113-005

Matrix: MEOH (SOIL)

Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: JME
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/4/2015 2:54:29 PM	17554
Surr: DNOP	104	63.5-128		%REC	1	2/4/2015 2:54:29 PM	17554
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	2/4/2015 12:44:49 PM	R24097
Surr: BFB	95.1	80-120		%REC	1	2/4/2015 12:44:49 PM	R24097
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.033		mg/Kg	1	2/4/2015 12:44:49 PM	R24097
Toluene	ND	0.033		mg/Kg	1	2/4/2015 12:44:49 PM	R24097
Ethylbenzene	ND	0.033		mg/Kg	1	2/4/2015 12:44:49 PM	R24097
Xylenes, Total	ND	0.066		mg/Kg	1	2/4/2015 12:44:49 PM	R24097
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	2/4/2015 12:44:49 PM	R24097

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-6 NW

Project: Brookhaven A2

Collection Date: 2/3/2015 10:00:00 AM

Lab ID: 1502113-006

Matrix: MEOH (SOIL)

Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/4/2015 3:16:12 PM	17554
Surr: DNOP	99.9	63.5-128		%REC	1	2/4/2015 3:16:12 PM	17554
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	2/4/2015 1:13:35 PM	R24097
Surr: BFB	95.7	80-120		%REC	1	2/4/2015 1:13:35 PM	R24097
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	2/4/2015 1:13:35 PM	R24097
Toluene	ND	0.032		mg/Kg	1	2/4/2015 1:13:35 PM	R24097
Ethylbenzene	ND	0.032		mg/Kg	1	2/4/2015 1:13:35 PM	R24097
Xylenes, Total	ND	0.064		mg/Kg	1	2/4/2015 1:13:35 PM	R24097
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	2/4/2015 1:13:35 PM	R24097

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-7 CW

Project: Brookhaven A2

Collection Date: 2/3/2015 10:03:00 AM

Lab ID: 1502113-007

Matrix: MEOH (SOIL)

Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/4/2015 3:37:50 PM	17554
Surr: DNOP	101	63.5-128		%REC	1	2/4/2015 3:37:50 PM	17554
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.9		mg/Kg	1	2/4/2015 9:50:27 PM	R24097
Surr: BFB	95.0	80-120		%REC	1	2/4/2015 9:50:27 PM	R24097
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.029		mg/Kg	1	2/4/2015 9:50:27 PM	R24097
Toluene	ND	0.029		mg/Kg	1	2/4/2015 9:50:27 PM	R24097
Ethylbenzene	ND	0.029		mg/Kg	1	2/4/2015 9:50:27 PM	R24097
Xylenes, Total	ND	0.057		mg/Kg	1	2/4/2015 9:50:27 PM	R24097
Surr: 4-Bromofluorobenzene	104	80-120		%REC	1	2/4/2015 9:50:27 PM	R24097

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-8 SW

Project: Brookhaven A2

Collection Date: 2/3/2015 10:06:00 AM

Lab ID: 1502113-008

Matrix: MEOH (SOIL)

Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/4/2015 11:23:56 AM	17554
Surr: DNOP	80.4	63.5-128		%REC	1	2/4/2015 11:23:56 AM	17554
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	2/4/2015 10:19:09 PM	R24097
Surr: BFB	95.3	80-120		%REC	1	2/4/2015 10:19:09 PM	R24097
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.031		mg/Kg	1	2/4/2015 10:19:09 PM	R24097
Toluene	ND	0.031		mg/Kg	1	2/4/2015 10:19:09 PM	R24097
Ethylbenzene	ND	0.031		mg/Kg	1	2/4/2015 10:19:09 PM	R24097
Xylenes, Total	ND	0.061		mg/Kg	1	2/4/2015 10:19:09 PM	R24097
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	2/4/2015 10:19:09 PM	R24097

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-9 N Base

**Project:** Brookhaven A2

**Collection Date:** 2/3/2015 10:09:00 AM

**Lab ID:** 1502113-009

**Matrix:** MEOH (SOIL)

**Received Date:** 2/4/2015 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	11	9.9		mg/Kg	1	2/4/2015 11:51:04 AM	17554
Surr: DNOP	73.8	63.5-128		%REC	1	2/4/2015 11:51:04 AM	17554
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	7.7		mg/Kg	2	2/4/2015 1:42:18 PM	R24097
Surr: BFB	95.9	80-120		%REC	2	2/4/2015 1:42:18 PM	R24097
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.038		mg/Kg	2	2/4/2015 1:42:18 PM	R24097
Toluene	ND	0.077		mg/Kg	2	2/4/2015 1:42:18 PM	R24097
Ethylbenzene	ND	0.077		mg/Kg	2	2/4/2015 1:42:18 PM	R24097
Xylenes, Total	ND	0.15		mg/Kg	2	2/4/2015 1:42:18 PM	R24097
Surr: 4-Bromofluorobenzene	104	80-120		%REC	2	2/4/2015 1:42:18 PM	R24097

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-10 S Base

Project: Brookhaven A2

Collection Date: 2/3/2015 10:12:00 AM

Lab ID: 1502113-010

Matrix: MEOH (SOIL)

Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/4/2015 12:45:41 PM	17554
Surr: DNOP	67.0	63.5-128		%REC	1	2/4/2015 12:45:41 PM	17554
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	2/4/2015 10:47:52 PM	R24097
Surr: BFB	94.8	80-120		%REC	1	2/4/2015 10:47:52 PM	R24097
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.032		mg/Kg	1	2/4/2015 10:47:52 PM	R24097
Toluene	ND	0.032		mg/Kg	1	2/4/2015 10:47:52 PM	R24097
Ethylbenzene	ND	0.032		mg/Kg	1	2/4/2015 10:47:52 PM	R24097
Xylenes, Total	ND	0.065		mg/Kg	1	2/4/2015 10:47:52 PM	R24097
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	2/4/2015 10:47:52 PM	R24097

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 10 of 19
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-11 SE Stockpile

**Project:** Brookhaven A2

**Collection Date:** 2/3/2015 10:15:00 AM

**Lab ID:** 1502113-011

**Matrix:** MEOH (SOIL)

**Received Date:** 2/4/2015 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/4/2015 1:12:55 PM	17554
Surr: DNOP	71.0	63.5-128		%REC	1	2/4/2015 1:12:55 PM	17554
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	2/4/2015 11:16:33 PM	R24097
Surr: BFB	95.4	80-120		%REC	1	2/4/2015 11:16:33 PM	R24097
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.035		mg/Kg	1	2/4/2015 11:16:33 PM	R24097
Toluene	ND	0.035		mg/Kg	1	2/4/2015 11:16:33 PM	R24097
Ethylbenzene	ND	0.035		mg/Kg	1	2/4/2015 11:16:33 PM	R24097
Xylenes, Total	ND	0.070		mg/Kg	1	2/4/2015 11:16:33 PM	R24097
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	2/4/2015 11:16:33 PM	R24097

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 11 of 19
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-12 SW Stockpile

Project: Brookhaven A2

Collection Date: 2/3/2015 10:18:00 AM

Lab ID: 1502113-012

Matrix: MEOH (SOIL)

Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/4/2015 1:40:34 PM	17554
Surr: DNOP	66.5	63.5-128		%REC	1	2/4/2015 1:40:34 PM	17554
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	12		mg/Kg	4	2/4/2015 2:11:02 PM	R24097
Surr: BFB	94.9	80-120		%REC	4	2/4/2015 2:11:02 PM	R24097
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.062		mg/Kg	4	2/4/2015 2:11:02 PM	R24097
Toluene	ND	0.12		mg/Kg	4	2/4/2015 2:11:02 PM	R24097
Ethylbenzene	ND	0.12		mg/Kg	4	2/4/2015 2:11:02 PM	R24097
Xylenes, Total	ND	0.25		mg/Kg	4	2/4/2015 2:11:02 PM	R24097
Surr: 4-Bromofluorobenzene	104	80-120		%REC	4	2/4/2015 2:11:02 PM	R24097

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-13 W Stockpile

**Project:** Brookhaven A2

**Collection Date:** 2/3/2015 10:21:00 AM

**Lab ID:** 1502113-013

**Matrix:** MEOH (SOIL)

**Received Date:** 2/4/2015 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/4/2015 2:08:03 PM	17554
Surr: DNOP	64.4	63.5-128		%REC	1	2/4/2015 2:08:03 PM	17554
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	2/4/2015 12:54:34 PM	R24096
Surr: BFB	92.8	80-120		%REC	1	2/4/2015 12:54:34 PM	R24096
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.031		mg/Kg	1	2/4/2015 12:54:34 PM	R24096
Toluene	ND	0.031		mg/Kg	1	2/4/2015 12:54:34 PM	R24096
Ethylbenzene	ND	0.031		mg/Kg	1	2/4/2015 12:54:34 PM	R24096
Xylenes, Total	ND	0.062		mg/Kg	1	2/4/2015 12:54:34 PM	R24096
Surr: 4-Bromofluorobenzene	127	80-120	S	%REC	1	2/4/2015 12:54:34 PM	R24096

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 13 of 19
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1502113

05-Feb-15

**Client:** Souder, Miller and Associates

**Project:** Brookhaven A2

Sample ID <b>MB-17553</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>17553</b>		RunNo: <b>24074</b>							
Prep Date: <b>2/4/2015</b>	Analysis Date: <b>2/4/2015</b>		SeqNo: <b>710059</b>		Units: <b>%REC</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		116	63.5	128			

Sample ID <b>MB-17554</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>17554</b>		RunNo: <b>24073</b>							
Prep Date: <b>2/4/2015</b>	Analysis Date: <b>2/4/2015</b>		SeqNo: <b>710152</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	8.5		10.00		85.3	63.5	128			

Sample ID <b>LCS-17554</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>17554</b>		RunNo: <b>24073</b>							
Prep Date: <b>2/4/2015</b>	Analysis Date: <b>2/4/2015</b>		SeqNo: <b>710153</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.9	67.8	130			
Surr: DNOP	4.4		5.000		88.1	63.5	128			

Sample ID <b>LCS-17553</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>17553</b>		RunNo: <b>24073</b>							
Prep Date: <b>2/4/2015</b>	Analysis Date: <b>2/4/2015</b>		SeqNo: <b>710303</b>		Units: <b>%REC</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.9		5.000		97.2	63.5	128			

Sample ID <b>1502113-001AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>SC-1 N</b>	Batch ID: <b>17554</b>		RunNo: <b>24073</b>							
Prep Date: <b>2/4/2015</b>	Analysis Date: <b>2/4/2015</b>		SeqNo: <b>710652</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	120	10	50.10	22.48	193	29.2	176			S
Surr: DNOP	4.8		5.010		96.4	63.5	128			

Sample ID <b>1502113-001AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>SC-1 N</b>	Batch ID: <b>17554</b>		RunNo: <b>24073</b>							
Prep Date: <b>2/4/2015</b>	Analysis Date: <b>2/4/2015</b>		SeqNo: <b>710653</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.40	22.48	54.3	29.2	176	82.1	23	R
Surr: DNOP	4.9		5.040		96.8	63.5	128	0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1502113  
05-Feb-15

**Client:** Souder, Miller and Associates  
**Project:** Brookhaven A2

Sample ID	<b>MB-17578</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>17578</b>	RunNo:	<b>24112</b>					
Prep Date:	<b>2/5/2015</b>	Analysis Date:	<b>2/5/2015</b>	SeqNo:	<b>710887</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		109	63.5	128			

Sample ID	<b>LCS-17578</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>17578</b>	RunNo:	<b>24111</b>					
Prep Date:	<b>2/5/2015</b>	Analysis Date:	<b>2/5/2015</b>	SeqNo:	<b>710956</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		89.9	63.5	128			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1502113

05-Feb-15

**Client:** Souder, Miller and Associates

**Project:** Brookhaven A2

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R24097</b>	RunNo:	<b>24097</b>					
Prep Date:		Analysis Date:	<b>2/4/2015</b>	SeqNo:	<b>710491</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		94.5	80	120			

Sample ID	<b>2.5UG GRO LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R24097</b>	RunNo:	<b>24097</b>					
Prep Date:		Analysis Date:	<b>2/4/2015</b>	SeqNo:	<b>710492</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.4	64	130			
Surr: BFB	1000		1000		102	80	120			

Sample ID	<b>1502113-002AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>SC-2 S</b>	Batch ID:	<b>R24097</b>	RunNo:	<b>24097</b>					
Prep Date:		Analysis Date:	<b>2/4/2015</b>	SeqNo:	<b>710495</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	21	4.1	20.31	1.227	98.9	47.9	144			
Surr: BFB	850		812.3		104	80	120			

Sample ID	<b>1502113-002AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>SC-2 S</b>	Batch ID:	<b>R24097</b>	RunNo:	<b>24097</b>					
Prep Date:		Analysis Date:	<b>2/4/2015</b>	SeqNo:	<b>710496</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	21	4.1	20.31	1.227	97.2	47.9	144	1.69	29.9	
Surr: BFB	840		812.3		103	80	120	0	0	

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R24096</b>	RunNo:	<b>24096</b>					
Prep Date:		Analysis Date:	<b>2/4/2015</b>	SeqNo:	<b>710543</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		90.5	80	120			

Sample ID	<b>2.5UG GRO LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R24096</b>	RunNo:	<b>24096</b>					
Prep Date:		Analysis Date:	<b>2/4/2015</b>	SeqNo:	<b>710544</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1502113

05-Feb-15

**Client:** Souder, Miller and Associates

**Project:** Brookhaven A2

Sample ID	<b>2.5UG GRO LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R24096</b>	RunNo:	<b>24096</b>					
Prep Date:		Analysis Date:	<b>2/4/2015</b>	SeqNo:	<b>710544</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.4	64	130			
Surr: BFB	960		1000		96.0	80	120			

## Qualifiers:

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

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1502113

05-Feb-15

**Client:** Souder, Miller and Associates

**Project:** Brookhaven A2

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R24097</b>	RunNo:	<b>24097</b>					
Prep Date:		Analysis Date:	<b>2/4/2015</b>	SeqNo:	<b>710517</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID	<b>100NG BTEX LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R24097</b>	RunNo:	<b>24097</b>					
Prep Date:		Analysis Date:	<b>2/4/2015</b>	SeqNo:	<b>710518</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	107	80	120			
Toluene	1.1	0.050	1.000	0	106	80	120			
Ethylbenzene	1.1	0.050	1.000	0	107	80	120			
Xylenes, Total	3.2	0.10	3.000	0	107	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

Sample ID	<b>100NG BTEX LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R24096</b>	RunNo:	<b>24096</b>					
Prep Date:		Analysis Date:	<b>2/4/2015</b>	SeqNo:	<b>710552</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	106	80	120			
Toluene	1.0	0.050	1.000	0	104	80	120			
Ethylbenzene	1.1	0.050	1.000	0	108	80	120			
Xylenes, Total	3.3	0.10	3.000	0	109	80	120			
Surr: 4-Bromofluorobenzene	0.91		1.000		91.1	80	120			

Sample ID	<b>1502113-013AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>SC-13 W Stockpile</b>	Batch ID:	<b>R24096</b>	RunNo:	<b>24096</b>					
Prep Date:		Analysis Date:	<b>2/4/2015</b>	SeqNo:	<b>710554</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.63	0.031	0.6231	0	102	69.2	126			
Toluene	0.63	0.031	0.6231	0	102	65.6	128			
Ethylbenzene	0.66	0.031	0.6231	0	106	65.5	138			
Xylenes, Total	2.0	0.062	1.869	0	106	63	139			
Surr: 4-Bromofluorobenzene	0.83		0.6231		133	80	120			S

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

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

WO#: 1502113  
 05-Feb-15

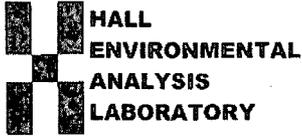
**Client:** Souder, Miller and Associates  
**Project:** Brookhaven A2

Sample ID	1502113-013AMSD		SampType:	MSD		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	SC-13 W Stockpile		Batch ID:	R24096		RunNo:	24096				
Prep Date:			Analysis Date:	2/4/2015		SeqNo:	710555		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.62	0.031	0.6231	0	100	69.2	126	1.43	18.5		
Toluene	0.62	0.031	0.6231	0	99.9	65.6	128	1.80	20.6		
Ethylbenzene	0.65	0.031	0.6231	0	104	65.5	138	1.68	20.1		
Xylenes, Total	2.0	0.062	1.869	0	105	63	139	1.18	21.1		
Surr: 4-Bromofluorobenzene	0.65		0.6231		104	80	120	0	0		

Sample ID	B20		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	PBS		Batch ID:	R24096		RunNo:	24096				
Prep Date:			Analysis Date:	2/4/2015		SeqNo:	710556		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	0.050									
Toluene	ND	0.050									
Ethylbenzene	ND	0.050									
Xylenes, Total	ND	0.10									
Surr: 4-Bromofluorobenzene	0.98		1.000		97.7	80	120				

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit



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

# Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1502113

RcptNo: 1

Received by/date: *[Signature]* 02/04/15  
 Logged By: Lindsay Mangin 2/4/2015 8:30:00 AM *[Signature]*  
 Completed By: Lindsay Mangin 2/4/2015 8:41:07 AM *[Signature]*  
 Reviewed By: AT 02/04/15

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? Yes  No
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

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

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

17. Additional remarks:

**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Yes			

# Chain-of-Custody Record

Client: **SMA**

Mailing Address: **401 W Broadway  
Farmington, NM 87401**

Phone #: **505 326 7535**

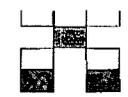
Email or Fax#: **Steve.Moskal@Sudsmiller.com**

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

Project Name: **Brookhaven A2**

Project #: **5123679 BGT 7**

Project Manager: **Steve Moskal**



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Accreditation  
 NELAP  Other \_\_\_\_\_  
 EDD (Type) \_\_\_\_\_

Sampler: **J. Sprague**

On Ice:  Yes  No

Sample Temperature: **2.4**

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
1/3	0944	Soil	SC-1 N	1 4oz mech kit	- mech	1502113 -001	X	X	X									
	0948		SC-2 S			-002	X	X	X									
	0951		SC-3 NE			-003	X	X	X									
	0954		SC-4 CE			-004	X	X	X									
	0957		SC-5 SE			-005	X	X	X									
	1000		SC-6 NW			-006	X	X	X									
	1003		SC-7 CW			-007	X	X	X									
	1006		SC-8 SW			-008	X	X	X									
	1009		SC-9 N Base			-009	X	X	X									
	1012		SC-10 S Base			-010	X	X	X									
	1015		SC-11 SE stockpile			-011	X	X	X									
	1018		SC-12 SW stockpile			-012	X	X	X									

Date: **2/3/15** Time: **1648**

Relinquished by: **[Signature]**

Date: **1/3/15** Time: **1747**

Relinquished by: **[Signature]**

Received by: **[Signature]** Date: **2/3/15** Time: **1648**

Received by: **[Signature]** Date: **02/04/15** Time: **0830**

Remarks: **Bill to Entprise  
Jesse.sprague@Sudsmiller.com  
copy  
Alicia.patterson@Sudsmiller.com**

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



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

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

**OIL CONS. DIV DIST. 3**  
Submit 1 Copy to appropriate District Office  
in accordance with 19.15.29 NMAC.  
**MAR 16 2015**

Form C-141  
Revised August 8, 2011

### Release Notification and Corrective Action

#### OPERATOR

Initial Report  Final Report

Name of Company: Enterprise Field Services LLC	Contact: Thomas Long
Address: 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name: <b>Trunk K - Seven Release Sites</b>	Facility Type: <b>Natural Gas Gathering Line</b>
Surface Owner: <b>BLM</b>	Mineral Owner: <b>BLM</b>
API No.	

#### LOCATION OF RELEASE

Unit Letter L, N, B, H	Section 26/27	Township 27N	Range 8W	Feet from the	North/South Line	Feet from the	East/West Line	County San Juan
---------------------------	------------------	-----------------	-------------	------------------	---------------------	------------------	-------------------	--------------------

Latitude See Below Longitude See Below

#### NATURE OF RELEASE

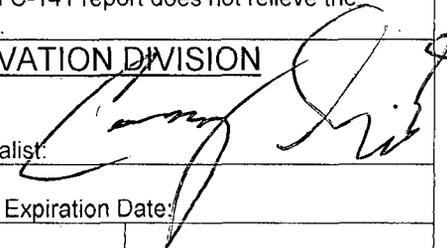
Type of Release: Natural Gas and Natural Gas Liquids (Condensate)	Volume of Release <b>225 MCF Gas; 5-10 BBLs per site</b>	Volume Recovered: <b>None</b>
Source of Release: Internal Corrosion	Date and Hour of Occurrence: <b>8/18/2014 @ 10:00 a.m.</b>	Date and Hour of Discovery: <b>8/18/2014 @ 4:00 p.m.</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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: A third party reported a pipeline leak on the Enterprise Trunk K right of way. Technicians were dispatched and seven (7) locations were confirmed. The GPS locations for each site are the following: 36.543552, -107.642895, -36.544667, -107.644105, 36.545372, -107.644913, 36.548300, -107.648630, 36.549580, -107.650090, 36.538300, -107.637030 and 36.546977, -107.646831. After the pipeline was isolated, de-pressurized, locked out and tagged out, repairs and remediation were implemented the seven (7) release sites.

Describe Area Affected and Cleanup Action Taken: Seven (7) release locations were remediated by excavation of the contaminant mass. Approximately 5,933 cubic yards of hydrocarbon impacted soil were excavated and transported a New Mexico Oil Conservation Division approved land farm facility. A groundwater investigation was completed on the third release site (36.545372, -107.644913) on January 23, 2015. All groundwater sample results were below the New Mexico Water Quality Control Commission standards. A third party corrective action report and groundwater investigation report is included with this "Final" C-141.

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

Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Ivan W. Zirbes	Approved by Environmental Specialist: 	
Title: Sr. Director, Environmental	Approval Date: <b>5/11/15</b>	Expiration Date:
E-mail Address: snolan@eprod.com	Conditions of Approval:	
Date: <b>3-18-2015</b> Phone: (713)381-6595	Attached <input type="checkbox"/>	

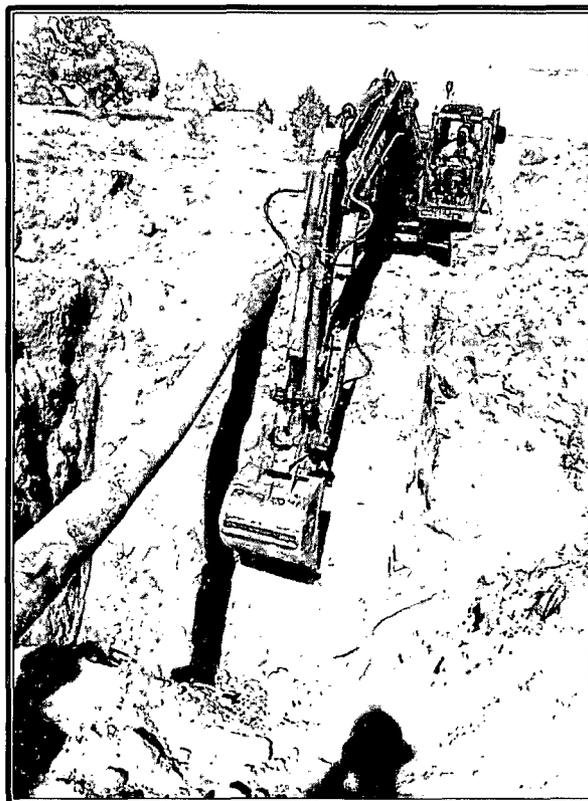
\* Attach Additional Sheets If Necessary

#NCS 143214 7925

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**Enterprise Products  
Trunk K Pipeline Releases  
San Juan County, New Mexico  
November 19, 2014**

Location Name	Latitude (North)	Longitude (West)	Unit, Section, Township, Range
Trunk K #1	36.543552°	-107.642895°	Unit L, S25, T27N, R8W
Trunk K #2	36.544667°	-107.644105°	Unit H, S26, T27N, R8W
Trunk K #3	36.545372°	-107.644913°	Unit H, S26, T27N, R8W
Trunk K #4	36.548300°	-107.648630°	Unit B, S26, T27N, R8W
Trunk K #5	36.549580°	-107.650090°	Unit B, S26, T27N, R8W
Trunk K #6	36.538300°	-107.637030°	Unit N, S25, T27N, R8W
Trunk K #7	36.546977°	-107.646831°	Unit H, S26, T27N, R8W



**Submitted To:**  
Enterprise Products  
Field Environmental-San Juan Basin  
614 Reilly Avenue  
Farmington, NM 87401

**Submitted By:**  
Souder, Miller & Associates  
401 West Broadway  
Farmington, NM 87401  
(505)325-7535



## Table of Contents

1.0	Executive Summary .....	1
2.0	Introduction.....	1
3.0	Site Ranking and Land Jurisdiction .....	2
4.0	Summary of Field Activities .....	2
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### Figures:

Figure 1: Vicinity Map

Figure 2 -8: Site Maps (Locations #1- #7)

Figure 9 -15: Soil Contaminant Concentration Maps (Locations #1- #7)

### Tables:

Table 1: Release Information

Table 2: Site Ranking

Table 3: Summary of Laboratory Analysis

### Appendices:

Appendix A: Photographic Documentation

Appendix B: Soil Disposal Documentation

Appendix C: Laboratory Analytical Reports

Appendix D: Groundwater Investigation Plan

Appendix E: Cultural Survey Study (WCRM)

## 1.0 Executive Summary

Between August 28 and November 6, 2014 Souder, Miller & Associates (SMA) responded to oversee a total of seven releases associated with the Trunk K Pipeline, initially reported on August 18, 2014. The releases were a result of internal corrosion of the pipeline and failed carbon fiber wrap repair dating back approximately 1.5 to 2 years ago. The table below summarizes information about the pipeline repair and remediation activities.

TABLE 1: RELEASE INFORMATION			
Location Name	Latitude (North)	Longitude (West)	Unit, Section, Township, Range
Trunk K #1	36.543552°	-107.642895°	Unit L, S25, T27N, R8W
Trunk K #2	36.544667°	-107.644105°	Unit H, S26, T27N, R8W
Trunk K #3	36.545372°	-107.644913°	Unit H, S26, T27N, R8W
Trunk K #4	36.548300°	-107.648630°	Unit B, S26, T27N, R8W
Trunk K #5	36.549580°	-107.650090°	Unit B, S26, T27N, R8W
Trunk K #6	36.538300°	-107.637030°	Unit N, S25, T27N, R8W
Trunk K #7	36.546977°	-107.646831°	Unit H, S26, T27N, R8W
Date Reported	August 18, 2014; September 1, 2014; October 30, 2014		
Reported to	Tom Long		
Land Owner	Bureau of Land Management (BLM)		
Reported To	NM Oil Conservation Division (NMOCD)/ BLM		
Diameter of Pipeline	16 inches		
Source of Release	Internal Corrosion		
Release Contents	Natural Gas Liquids/Condensate		
Release Volume	Unknown		
Nearest Waterway	Adjacent to Largo Canyon Wash and within an unnamed Tributary Wash to Largo Canyon Wash		
Depth to Groundwater	Assumed to be less than 50 feet		
Nearest Domestic Water Source	Greater than 1,000 feet		
NMOCD Ranking	30-40		
SMA Response Dates	8/28-11/6/2014		
Subcontractors	Energy Maintenance Services (EMS)		
Disposal Facility	Envirotech Landfarm		
Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	5,933 (Reported on Completed Form C-138)		

## 2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes remediation of a hydrocarbon releases associated with the Trunk K Pipeline. The Trunk

K Pipeline releases were a result of internal corrosion of the 16-inch steel pipeline. The first release was discovered on August 20, 2014. The second through sixth releases were discovered on September 2, 2014 and the seventh on October 30, 2014. The pipeline release locations are included in the above, Table 1: Release Information. Figure 1, Vicinity Map, illustrates the locations and spatial relationships of the releases.

### 3.0 Site Ranking and Land Jurisdiction

The release sites are located in Largo Canyon, between Cottonwood Canyon to the south and Smith Canyon to the north. The distances from release sites #1 through #5, to the nearest surface waterway, Largo Canyon Wash, range from approximately 105 feet to 425 feet. Release #6 is located on the surface of an unnamed tributary of Largo Canyon Wash. Release location #7 is approximately 160 feet west of Largo Canyon Wash. All seven releases are located on land managed by the BLM with elevations ranging from approximately 5,955 feet to 6,005 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater was estimated to be less than 50 feet below ground surface (bgs) at all of the sites. Figure 1 depicts the site vicinities and Figures 2-8 depict the individual site locations.

SMA searched the New Mexico State Engineer's Office online water well data base for water wells in the vicinity of the release. No wells were located within 1,000 feet and one well is located within a 1 mile radius of the sites. The physical locations of the releases are within the jurisdiction of the NMOCD and BLM.

The release locations have been assigned NMOCD rankings of 30 or 40, depending on physical location, which require soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 100 ppm total petroleum hydrocarbons (TPH). Table 2 illustrates individual site ranking criteria and rationale.

### 4.0 Summary of Field Activities

On August 28 through November 6, 2014, SMA mobilized to the release sites to oversee excavation activities during the repair of the pipeline and guide remedial excavations. SMA guided the excavation activities by collecting soil samples for field screening with a calibrated photo-ionization detector (PID). Representatives from Enterprise were present to oversee site health and safety and direct repair activities.

Soil samples were initially field screened with a calibrated PID. Samples suspected of having hydrocarbon contamination concentrations below regulatory standards were submitted for confirmation laboratory analysis per United States Environmental Protection Agency Methods: 8021 for benzene, toluene, ethylbenzene, and xylenes (BTEX) and 8015 for diesel and gasoline range organics (DRO/GRO). All samples were analyzed by Hall Environmental Analytical Laboratory in Albuquerque, New Mexico. Figures 9-15 illustrate the extent of the excavations, composite soil sample locations and laboratory results.

**Trunk K #1:** Excavation of the Trunk K #1 site began on August 28, 2014 and continued through September 4, 2014. The Trunk K #1 site has an NMOCD Guidelines for Remediation of Leaks,

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Spills, and Releases site ranking of 40. NMOCD has established the following action levels for contaminants of concern for a site ranking of 40: 10 ppm benzene, 50 ppm total BTEX, and 100 ppm TPH.

The closure sample collection date was scheduled with BLM and NMOCD on September 3, 2014. Neither party was on site to witness the sample collection. Composite samples were collected, with an excavator, from the excavation sidewalls and multiple base locations. All samples were below NMOCD Guideline standards with the exception of sample SC-8, W Wall @ 0-7', was determined to have concentrations of 110 mg/kg DRO and 0.383 mg/kg combined BTEX, with benzene below laboratory detection limits, all other analytes were below detection limits.

The excavation continued on September 4, 2014 to focus on the west wall and the base of the excavation. The east portion of the excavation was advanced to a total depth of 9 feet bgs and the west portion was advanced to a maximum depth of 24 feet bgs where saturated soils were encountered, the approximate depth of the water table. Soil samples collected from the west wall, southwest wall and north-central base on September 4, 2014 were submitted for laboratory analysis. All laboratory results were below detection limits except for SC-8 W Wall @ 7-24' which had a GRO concentration of 5.6 mg/kg and a combined BTEX concentration of 0.385 mg/kg with benzene below detection limits.

The final excavation measured approximately 100 feet long by 27 feet wide with a maximum depth of 24 feet with no indication of impacts to groundwater. All soil excavated from the Trunk K #1 site was transported to Envirotech Landfarm, near Bloomfield, NM for disposal and replaced with clean backfill. Soil disposal documentation is included in Appendix B. A site map labeled Soil Contaminant Concentration Map is included as Figure 9, detailing sample locations and laboratory results. Copies of the laboratory reports are included in Appendix C.

Laboratory analytical results for samples collected across the majority of the excavation on September 3, 2014 were below NMOCD Guidelines with the exception of one location, SC-8 W Wall. On September 4, 2014 the west wall was further excavated and resampled and laboratory results determined concentrations to be below the standards. SMA recommends no further action at the Trunk K #1 Pipeline release site.

**Trunk K #2:** Excavation of the Trunk K #2 site began on September 5, 2014 and continued, periodically, through October 15, 2014. The Trunk K #2 site has an NMOCD Guidelines for Remediation of Leaks, Spills, and Releases site ranking of 40. NMOCD has established the following action levels for contaminants of concern for a site ranking of 40: 10 ppm benzene, 50 ppm total BTEX, and 100 ppm TPH. The excavation was spilt into two phases due to the necessity of supporting the spanned pipeline during excavation. Laboratory results for closure samples were separately submitted for each phase and approved by the regulatory agencies. Once approved, each phase of the excavation was backfilled separately in order to provide support for the pipeline.

Closure sample collection dates were scheduled with the BLM and the NMOCD to observe sampling activities on October 3, 2014 and subsequently on October 15, 2014. Corey Smith of NMOCD was present to witness the field screening of samples collected on October 3, 2014. Eleven composite samples were collected from the excavation sidewalls and multiple base locations using an excavator. Samples were collected from the majority of the north and east

sections as well as a segment of the south portion of the overall excavation at a maximum depth of 18 feet bgs where saturated soils were encountered, the approximate depth of the water table. Three soil samples were collected at the water table. Laboratory results for all eleven samples collected on October 3, 2014 were below NMOCD Guideline standards.

The excavation continued on October 4, 2014, but was delayed due to additional repair activities until October 13, 2014. The west portion of the excavation was advanced to a total depth of 18 feet bgs where saturated soils were encountered and assumed to be groundwater. Soil samples from the remaining south wall, west wall and base of the overall excavation were collected on October 15, 2014 and submitted for laboratory analysis. Neither the BLM nor the NMOCD were present to observe the scheduled sampling activities. All laboratory results were below NMOCD Guideline standards.

The overall excavation measured approximately 67 feet long by 30 feet wide with a maximum depth of 18 feet with no indication of impacts to groundwater. All soil excavated from the Trunk K #2 site was transported to Envirotech Landfarm, near Bloomfield, NM for disposal and replaced with clean backfill. Soil disposal documentation is included in Appendix B. A site map labeled Soil Contaminant Concentration Map is included as Figure 10 detailing sample locations and laboratory results. Copies of the laboratory reports are included in Appendix C.

Laboratory analytical results for samples collected during the excavation on September 3 and 4, 2014 were below NMOCD Guidelines for benzene (10 ppm), BTEX (50 ppm) and combined GRO/DRO (100 ppm). SMA recommends no further action at the Trunk K #2 Pipeline release site.

**Trunk K #3:** Excavation of the Trunk K #3 site began on September 10, 2014 and continued, periodically, through September 25, 2014 when scheduled closure samples were collected. The Trunk K #3 release site has a NMOCD Guidelines for Remediation of Leaks, Spills, and Releases ranking of 40. NMOCD has established the following action levels for contaminants of concern with a site ranking of 40: 10 ppm benzene, 50 ppm total BTEX, and 100 ppm TPH.

Closure sample collection dates were scheduled with BLM and NMOCD to observe sampling activities on September 25, 2014. Neither party was present to witness the sample collection. The overall excavation measured 72 feet long and 18 feet wide with depths ranging from 8 to 20 feet bgs. Saturated soils were encountered at approximately 19 feet bgs.

Nine composite samples were collected from the final excavation sidewalls using both an excavator and hand shovel. Soil sample SC-26 E Base was collected from the excavation at a depth of 8 feet bgs. As directed by Enterprise Products, no soil samples were collected from the 20 foot deep base of the main excavation due to the presence of groundwater in the excavation. Laboratory results for all eleven samples collected on September 25, 2014 were below NMOCD Guideline standards. Based on field screening data for samples collected at the capillary fringe of the excavation groundwater is assumed to be impacted at this site. Laboratory samples were not collected from the base of the excavation due to elevated PID readings as directed by Enterprise.

Backfilling of the Trunk K #3 excavation was completed on October 21, 2014. All soil excavated from the Trunk K #3 site was transported to Envirotech Landfarm, near Bloomfield, NM for disposal and replaced with clean backfill. Soil disposal documentation is included in Appendix B.

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A site map labeled Soil Contaminant Concentration Map is included as Figure 11 detailing sample locations and laboratory results. A copy of the laboratory report is also included in Appendix C.

A groundwater contamination investigation is currently in process for implementation pending BLM and NMOCD approval of the attached *Groundwater Investigation Plan*, included in Appendix D. This work plan was dated and submitted to BLM and NMOCD on October 23, 2014. SMA recommends the installation of four groundwater monitoring wells to determine the extent and magnitude of impacts to groundwater within the fifty foot right of way.

**Trunk K #4:** Excavation of the Trunk K #4 site began on September 9, 2014 and continued, periodically, through September 25, 2014 when scheduled closure samples were collected. The Trunk K #4 pipeline release site has a NMOCD Guidelines for Remediation of Leaks, Spills, and Releases ranking of 30. NMOCD has established the following action levels for contaminants of concern for a site ranking of 30: 10 ppm benzene, 50 ppm total BTEX, and 100 ppm TPH.

Closure sample collection dates were scheduled with the BLM and the NMOCD to observe sampling activities on September 25, 2014. Neither party was present to witness the sample collection. The overall excavation measured 32 feet long and 21 feet wide with depths ranging from 18 to 19 feet bgs. No saturated soils were encountered during the excavation.

Five composite samples were collected on September 25, 2014 from the final excavation sidewalls and base using an excavator. Laboratory results for all five samples were below NMOCD Guideline standards and laboratory detection limits. All soil excavated from the Trunk K #4 site was transported to Envirotech Landfarm, near Bloomfield, NM for disposal and replaced with clean backfill. Soil disposal documentation is included in Appendix B. A site map labeled Soil Contaminant Concentration Map is included as Figure 12 detailing sample locations and laboratory results. A copy of the laboratory report is also included in Appendix C. SMA recommends no further action at the Trunk K #4 Pipeline release site.

**Trunk K #5:** Excavation of the Trunk K #5 site began on September 15, 2014 and continued, periodically, through September 24, 2014 when scheduled closure samples were collected. The Trunk K #5 pipeline release site has an NMOCD Guidelines for Remediation of Leaks, Spills, and Releases site ranking of 30. NMOCD has established the following action levels for contaminants of concern for a site ranking of 30: 10 ppm benzene, 50 ppm total BTEX, and 100 ppm TPH.

Closure sample collection dates were scheduled with the BLM and the NMOCD to observe sampling activities on September 24, 2014. Neither party was present to witness the sample collection. The overall excavation measured 32 feet long and 21 feet wide with depths ranging from 18 to 19 bgs. No saturated soils were encountered during the excavation.

Five composite samples were collected from the final excavation sidewalls and base using an excavator. Laboratory results for all five samples collected on September 24, 2014 were below NMOCD Guideline standards and laboratory detection limits. All soil excavated from the Trunk K #5 site was transported to Envirotech Landfarm, near Bloomfield, NM for disposal and replaced with clean backfill. Soil disposal documentation is included in Appendix B. A site map labeled Soil Contaminant Concentration Map is included as Figure 13 detailing sample locations and laboratory results. A copy of the laboratory report is also included in Appendix C. SMA recommends no further action at the Trunk K #5 Pipeline release site.

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**Trunk K #6:** The location of the Trunk K #6 site was determined by BLM to be within an archaeological and cultural sensitive area. Enterprise contracted Western Cultural Resources Management (WCRM) of Farmington, NM to conduct a complete archaeological survey of the entire Trunk K pipeline right of way. The survey determined the majority of the right of way to be cleared of archaeological significant findings except for the area immediately surrounding the Trunk K #6 release location. Through coordination with the BLM, WCRM identified and delineated the area in order to protect and preserve the integrity of the archaeological site. Several site visits were conducted during the repair and remediation activities. A copy of WCRM survey report is enclosed in Appendix E.

Excavation of the Trunk K #6 site began on September 18, 2014 and continued, periodically, through October 2, 2014 when scheduled closure samples were collected. The Trunk K #6 pipeline release site has an NMOCD Guidelines for Remediation of Leaks, Spills, and Releases site ranking of 40. NMOCD has established the following action levels for contaminants of concern with a site ranking of 40: 10 ppm benzene, 50 ppm total BTEX, and 100 ppm TPH.

Closure sample collection dates were scheduled with the BLM and the NMOCD to observe sampling activities on October 1, 2014. Neither party was present to witness the sample collection. Corey Smith of the NMOCD was on site on September 25, 2014 to observe the open excavation at that time, with a total depth of 5.5 feet bgs.. The overall excavation measured 67 feet long and 24 feet wide. However, the area of greatest concern measured 32 feet long, 24 feet wide with a maximum depth of 21 feet bgs. The excavation encountered competent sandstone bedrock from approximately 5 feet bgs to the total depth. No saturated soils were encountered during the excavation.

Five composite samples were collected from the final excavation sidewalls and base using an excavator on October 1, 2014. Sample SC-15 E Wall @ 0-21 feet was above NMOCD Guideline standards with a GRO concentration of 140 mg/kg and a DRO concentration of 24 mg/kg. All other samples were below NMOCD Guideline standards. On October 2, 2014 the location of sample SC-15 was further excavated to the east, approximately 4 feet with a total depth of 21 feet bgs. A composite sample was taken from this location and labeled SC-17 and submitted for laboratory analysis with results below NMOCD Guideline standards and laboratory detection limits.

All soil and sandstone excavated from the Trunk K #6 site was transported to Envirotech Landfarm, near Bloomfield, NM for disposal and replaced with clean backfill. Soil disposal documentation is included in Appendix B. A site map labeled Soil Contaminant Concentration Map is included as Figure 14 detailing sample locations and laboratory results. A copy of the laboratory report is also included in Appendix C. SMA recommends no further action at the Trunk K #6 Pipeline release site.

**Trunk K #7:** Excavation of the Trunk K #7 site began on October 31, 2014 and continued through November 6, 2014 when scheduled closure samples were collected. The Trunk K #7 pipeline release site has an NMOCD Guidelines for Remediation of Leaks, Spills, and Releases site ranking of 40. NMOCD has established the following action levels for contaminants of concern with a site ranking of 40: 10 ppm benzene, 50 ppm total BTEX, and 100 ppm TPH.

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Closure sample collection dates were scheduled with BLM and NMOCD to observe sampling activities on November 6, 2014. Neither party was present to witness the sample collection. The overall excavation measured 44 feet long and 15 feet wide with depths ranging from 7 to 14 bgs. No saturated soils were encountered during the excavation.

Ten composite samples were collected from the final excavation sidewalls and base using an excavator and three composite samples were collected by hand from the stockpiles generated from the excavation. Laboratory results for all ten samples collected on November 6, 2014 were below NMOCD Guideline standards and laboratory detection limits. Laboratory results for the samples collected from the three stockpiles were below laboratory detection limits and approved by BLM and NMOCD to be used as backfill material. Approximately seventy percent of the soil excavated from the Trunk K #7 site was transported to Envirotech Landfarm, near Bloomfield, NM for disposal. The disposed soil was replaced with clean backfill. Soil disposal documentation is included in Appendix B. A site map labeled Soil Contaminant Concentration Map is included as Figure 15 detailing sample locations and laboratory results. A copy of the laboratory report is also included in Appendix C. SMA recommends no further action at the Trunk K #7 Pipeline release site.

## **5.0 Conclusions and Recommendations**

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 30 or 40: 10 ppm benzene, 50 ppm total BTEX, and 100 ppm TPH.

Laboratory analytical results for samples collected from all final excavations were below NMOCD Guidelines for benzene (10 ppm), BTEX (50 ppm) and combined GRO/DRO (100 ppm). SMA recommends no further excavation at the Trunk K release sites.

SMA recommends additional delineation of potential groundwater impacts at the Trunk K #3 release site as described in the enclosed Appendix D: Groundwater Investigation Plan. The work plan is currently pending land grant approval by the BLM.

## **6.0 Closure and Limitations**

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, oversight and control of remediation operations, disposal arrangements and documentation, project management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices.

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If there are any questions regarding this report, please contact either Steve Moskal or Reid Allan at 505-325-7535.

Submitted by:

SOUDER, MILLER & ASSOCIATES



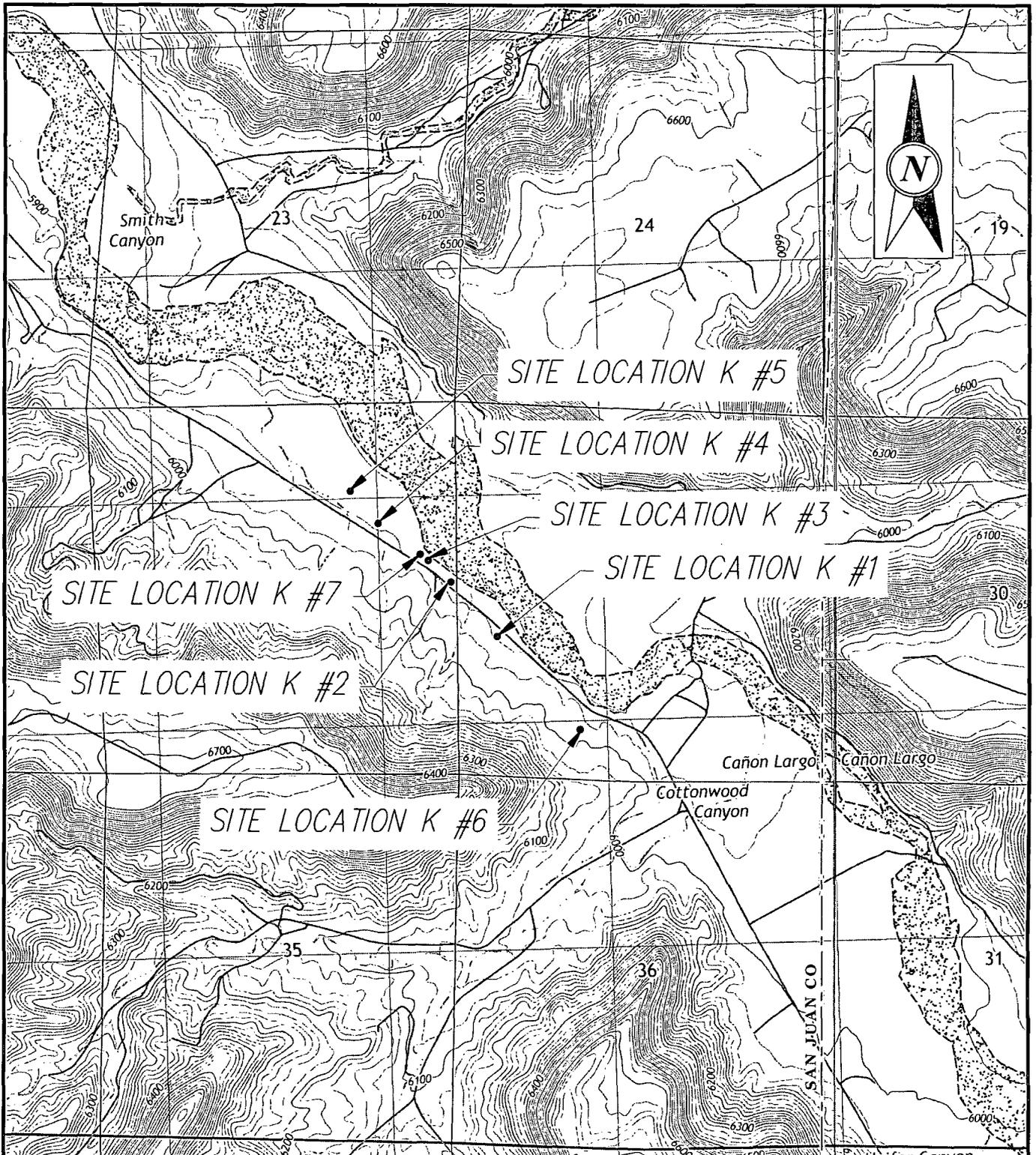
Steve Moskal  
Project Scientist

Reviewed by:



Reid S. Allan, PG  
Principal Scientist

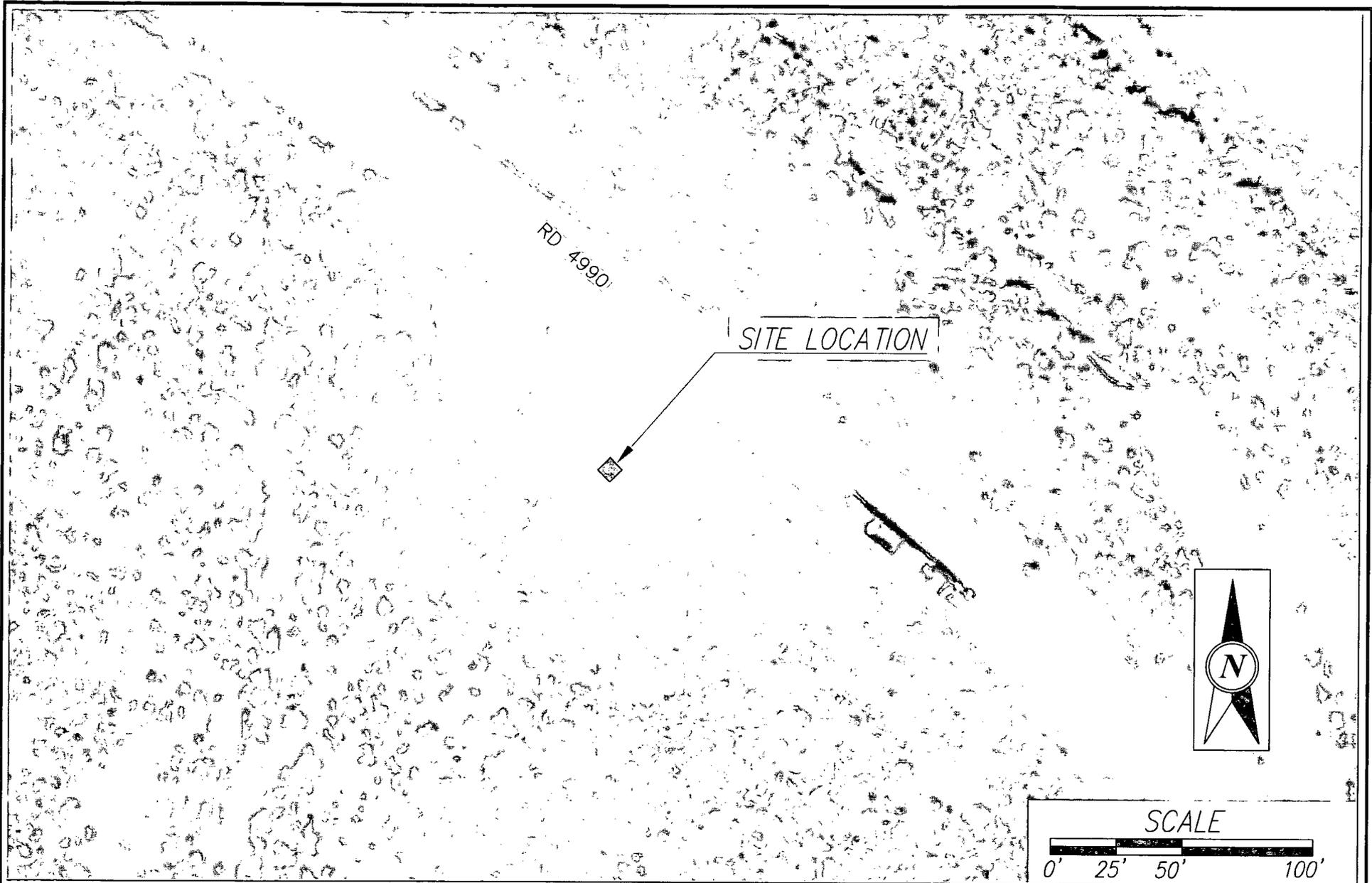
## Figures



SCALE



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	<p>VICINITY MAP TRUNK K #1 THROUGH K #7 SECTIONS 25 AND 26, T27N, R8W</p>		
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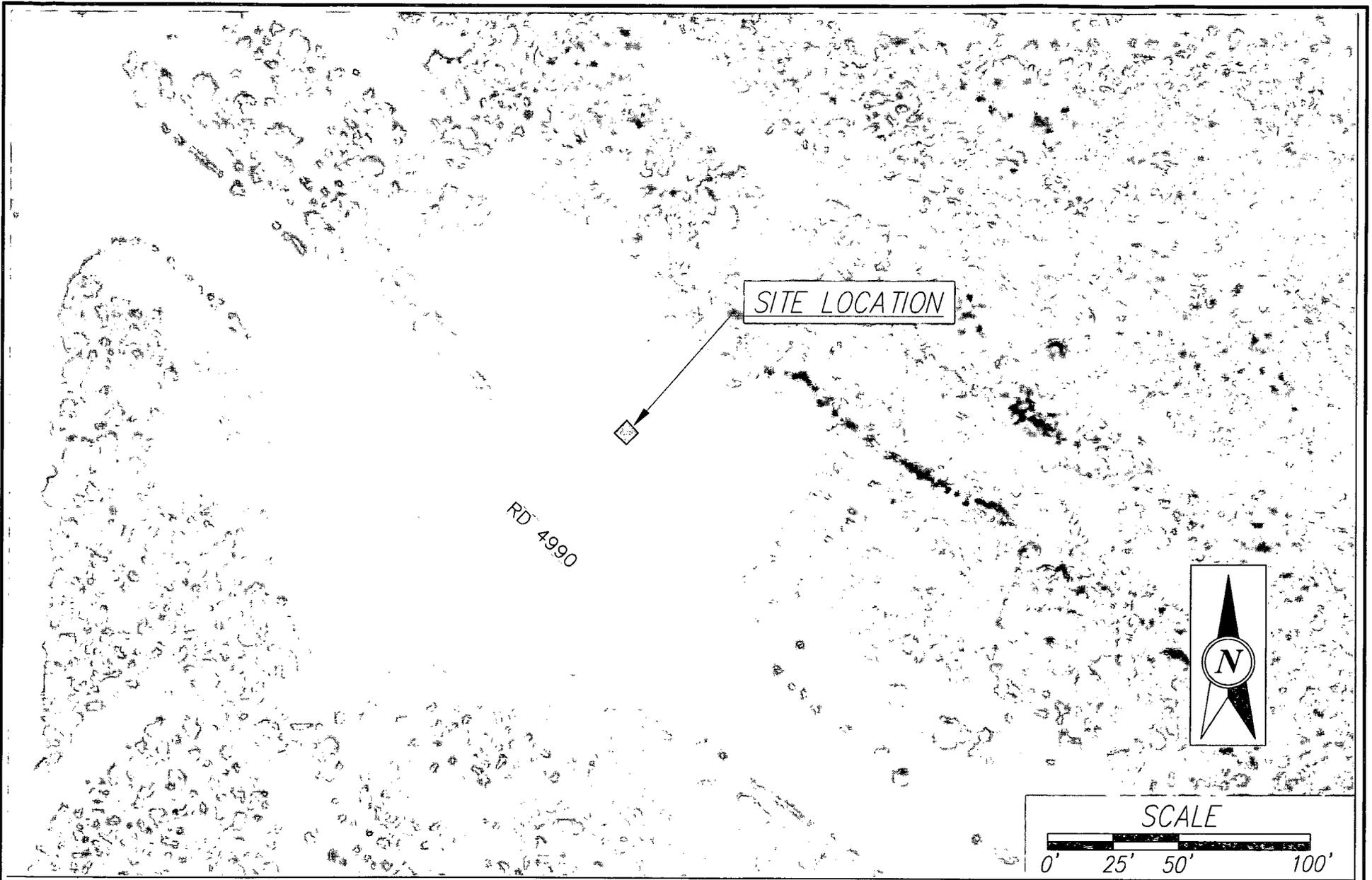
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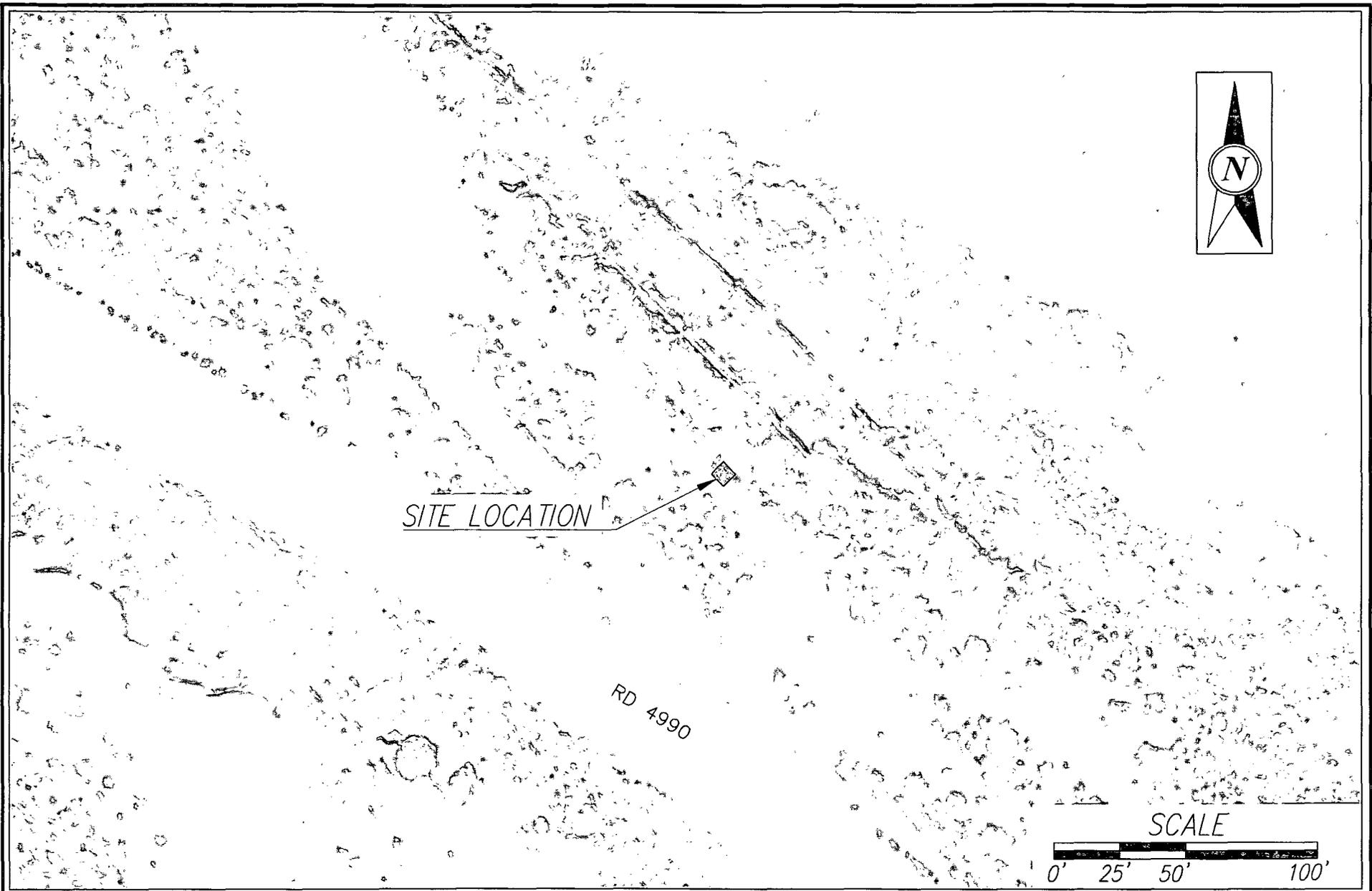
**SITE LOCATION MAP**  
**TRUNK K-1**  
**SECTION 25, T27N, R8W**

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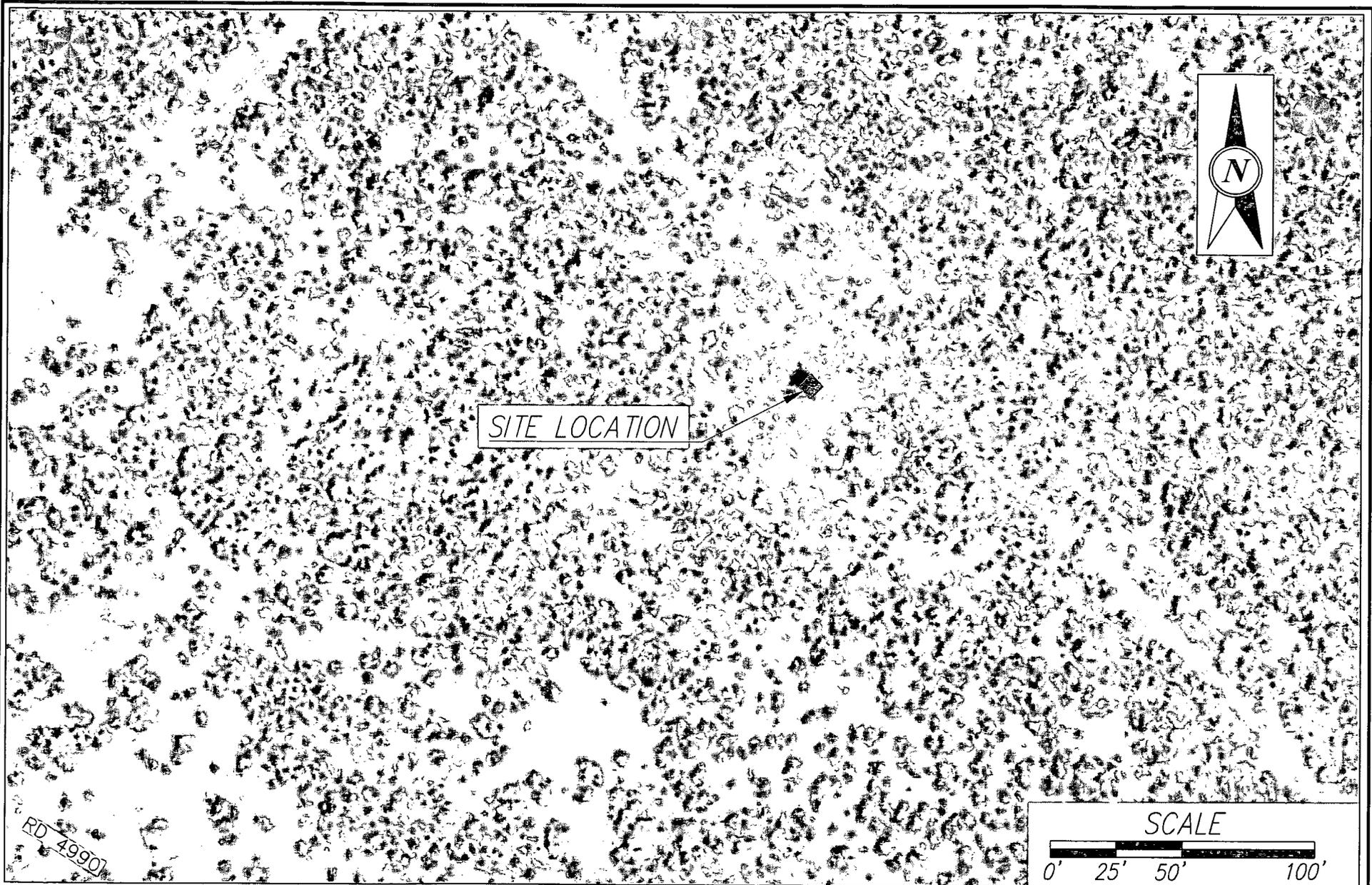
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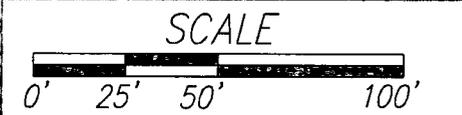
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**SITE LOCATION MAP**  
**TRUNK K-3**  
**SECTION 26, T27N, R8W**

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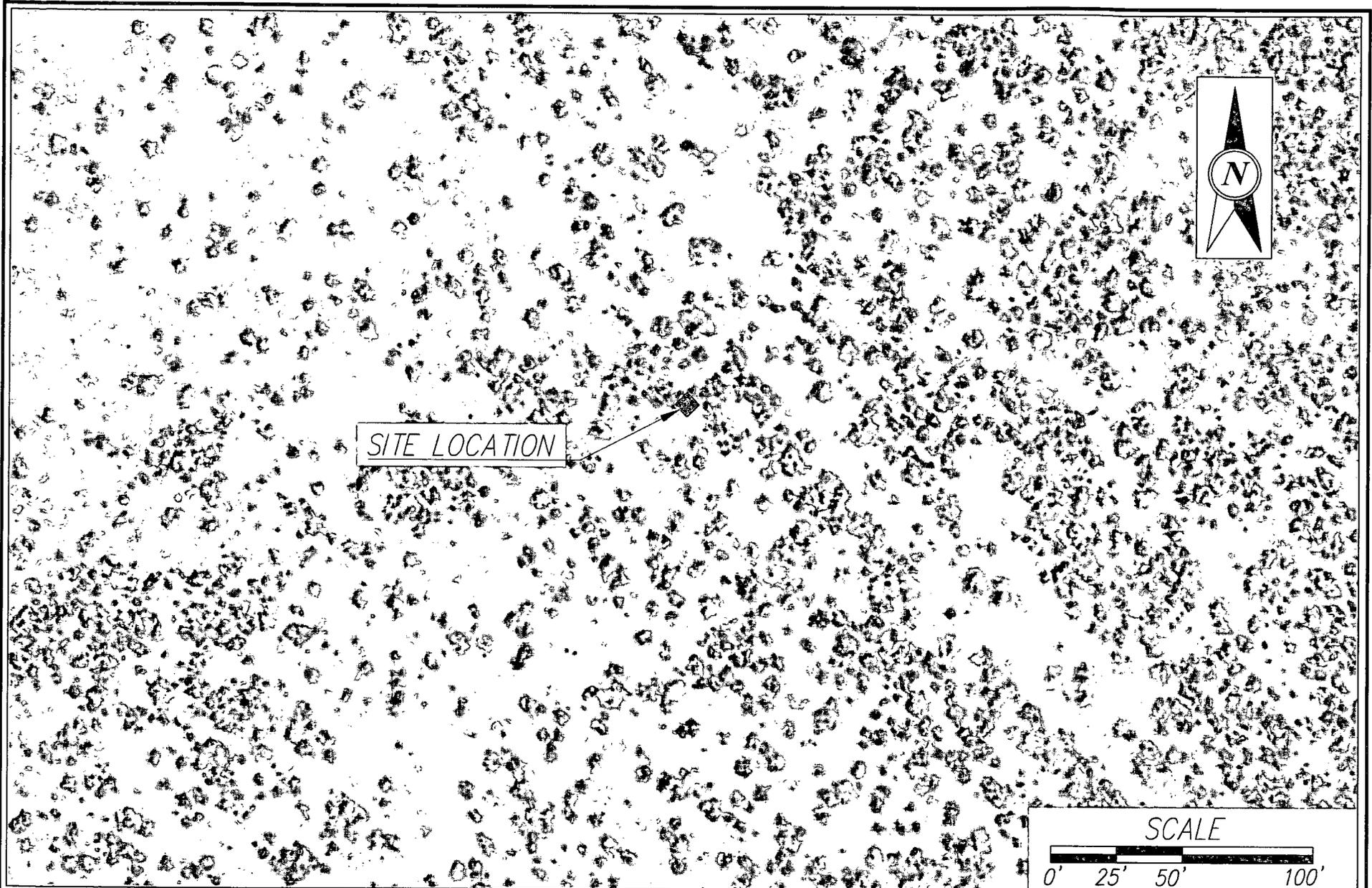


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<p><b>SITE LOCATION MAP</b> TRUNK K-4 SECTION 26, T27N, R8W</p>																				



SITE LOCATION



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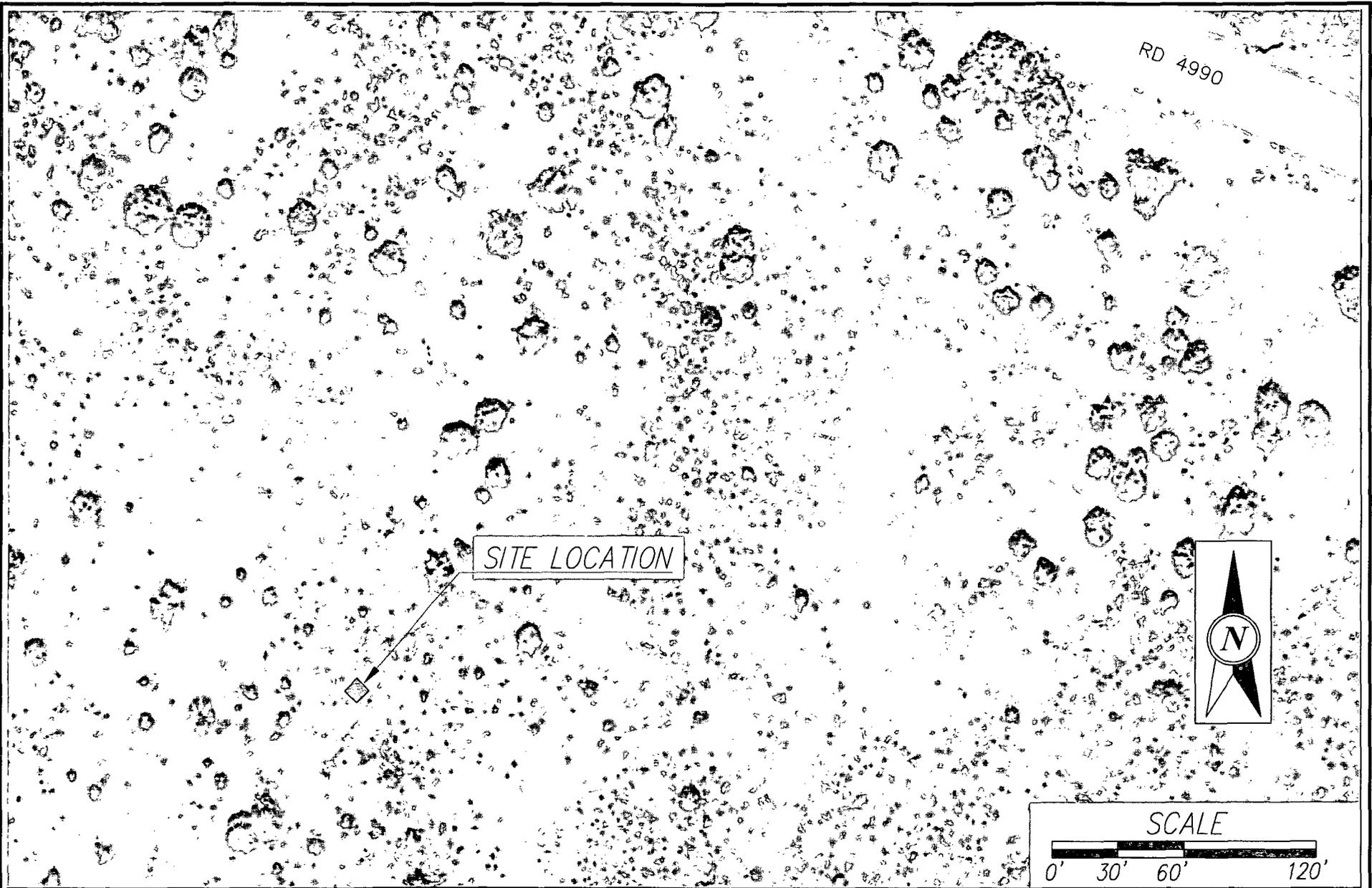
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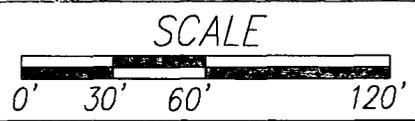
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**TRUNK K-5**  
**SECTION 26, T27N, R8W**

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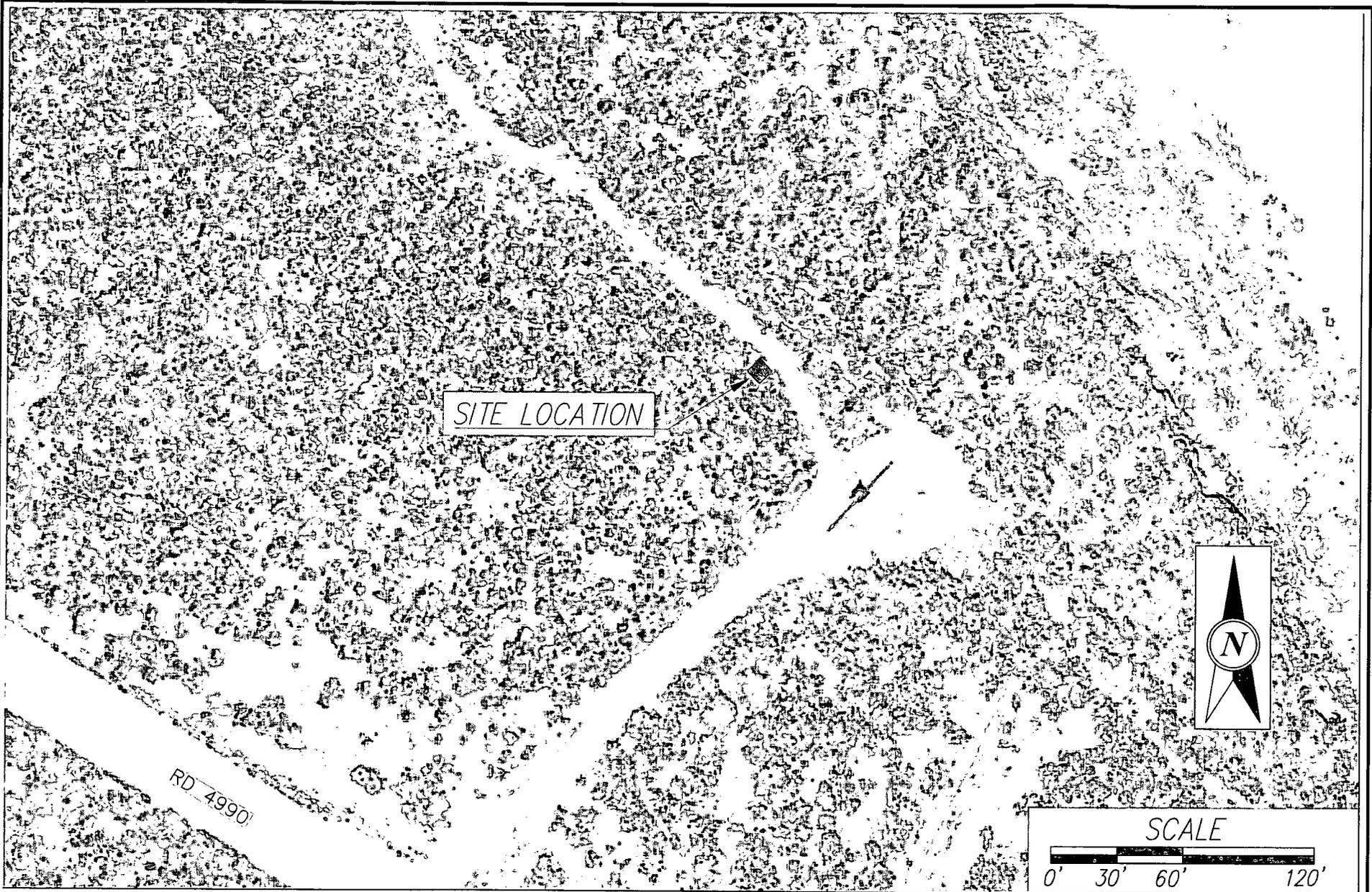
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SITE LOCATION MAP  
 TRUNK K-6  
 SECTION 25, T27N, R8W

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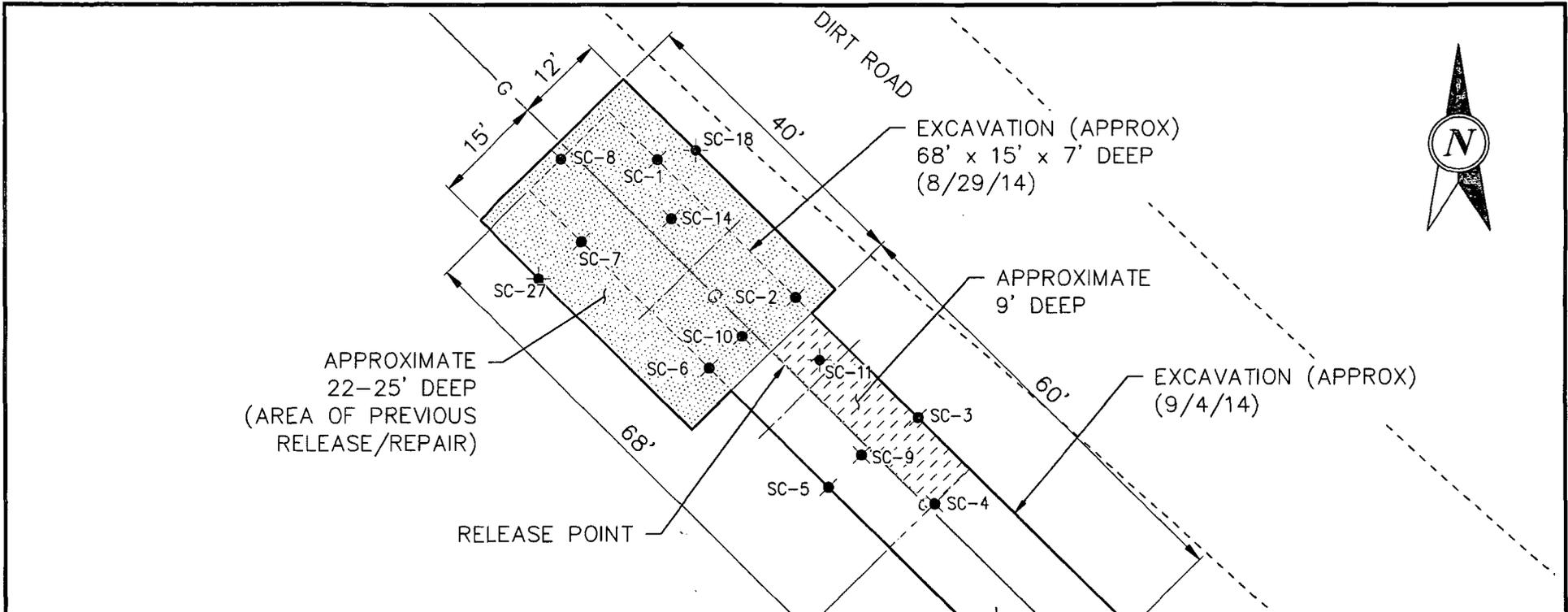
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**SECTION 26, T27N, R8W**

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SAN JUAN COUNTY, NEW MEXICO



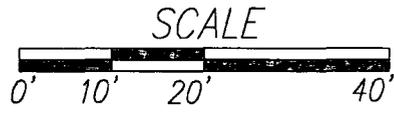
**LABORATORY ANALYTICAL SUMMARY**

Soil Samples							
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 40		100 ppm		10 ppm	50 ppm
9/2/2014	2:35	SC-3 NE Wall	0-7	<2.8	<9.9	<0.028	<0.056
9/2/2014	2:37	SC-4 E Wall	0-7	<3.9	<9.8	<0.039	<0.078
9/2/2014	2:38	SC-5 SE Wall	0-7	<4.0	<10	<0.040	<0.080
9/2/2014	2:40	SC-9 E. Base	7	<3.0	<10	<0.030	<0.060
9/2/2014	2:42	SC-6 Central Wall	0-7	<3.2	<10	<0.032	<0.064
9/2/2014	2:46	SC-7 SW Wall	0-7	18	12	<0.032	2.26
9/2/2014	2:49	SC-8 W Wall	0-7	<3.3	110	<3.3	0.383
9/2/2014	2:02	SC-14 N Central Base	23	<4.4	11	<0.044	<0.088
9/3/2014	11:45	SC-18 N Wall, West Corner	10	<4.5	<10	<0.045	<0.091
9/4/2014	2:37	SC-27 SW Wall		<4.7	<9.9	<0.047	<0.093
9/4/2014	3:12	SC-11 N Central Base	9	<4.3	<10	<0.043	0.18
9/4/2014	3:20	SC-8 W Wall	7-24	5.6	10	<0.037	0.385

LEGEND

● SOIL SAMPLE LOCATION

RESULTS IN mg/kg REPORTED 9-4-14  
9-8-14



**SMA**  
Engineering  
Environmental  
Surveying

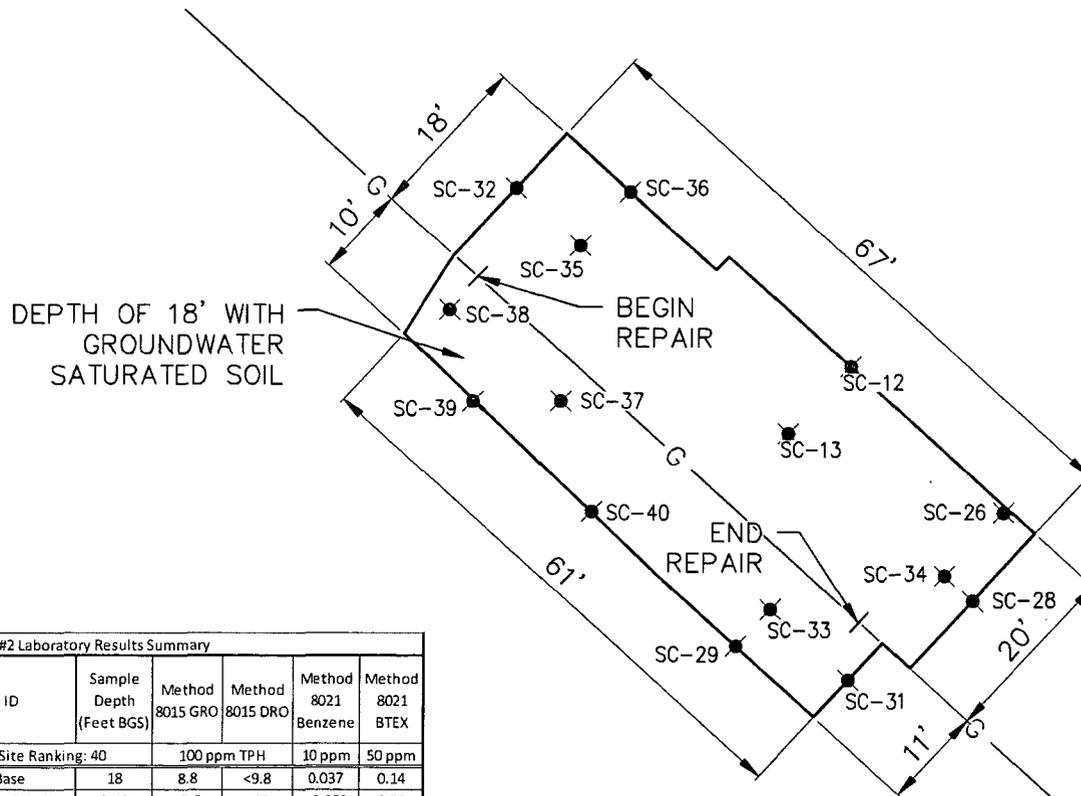
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**SOIL CONTAMINANT CONCENTRATION MAP**  
TRUNK K #1  
SECTION 25, T27N, R8W

SAN JUAN COUNTY, NEW MEXICO

Designed SM	Drawn DJB	Checked RSA
Date: 9/18/14		
Scale: Horiz: 1"=20' Vert: N/A		
Project No: 5122855		
Sheet: 9		



Trunk K #2 Laboratory Results Summary

Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 40		100 ppm TPH	10 ppm	50 ppm	
10/3/2014	11:10	SC-33 S Base	18	8.8	<9.8	0.037	0.14
10/3/2014	11:12	SC-29 S Central Wall	0-18	<5.0	<10	<0.050	0.26
10/3/2014	11:14	SC-31 E Wall S of PL	0-18	<4.5	<10	<0.045	0.40
10/3/2014	11:20	SC-34 NE Base	18	<3.9	<9.8	<0.039	<0.077
10/3/2014	11:22	SC-26 NE Wall	0-18	<5.5	<10	<0.055	0.29
10/3/2014	11:24	SC-28 E Wall N of PL	0-18	<5.0	<10	<0.050	0.37
10/3/2014	11:30	SC-13 N Central Base	18	<3.6	<9.9	<0.036	0.14
10/3/2014	11:32	SC-12 N Central Wall	0-18	<5.0	<10	<0.050	0.22
10/3/2014	11:38	SC-35 NW Base	18	<2.8	<9.9	<0.028	0.097
10/3/2014	11:41	SC-36 NW Wall	0-18	<5.0	<10	<0.050	0.29
10/3/2014	11:44	SC-32 W Wall N of PL	0-18	<5.0	<9.9	<0.050	0.48
10/15/2014	11:10	SC-37 SW Base	18	<3.4	<10	<0.034	<0.068
10/15/2014	11:12	SC-38 W Wall	0-18	<4.3	<10	<0.043	0.13
10/15/2014	11:14	SC-39 S Wall (W)	0-18	<4.6	<9.9	<0.046	<0.092
10/15/2014	11:20	SC-40 S Wall E	0-18	72	42	<0.092	4.31

LEGEND

 SOIL SAMPLE LOCATION  
 RESULTS IN mg/kg REPORTED 10-17-14

SCALE



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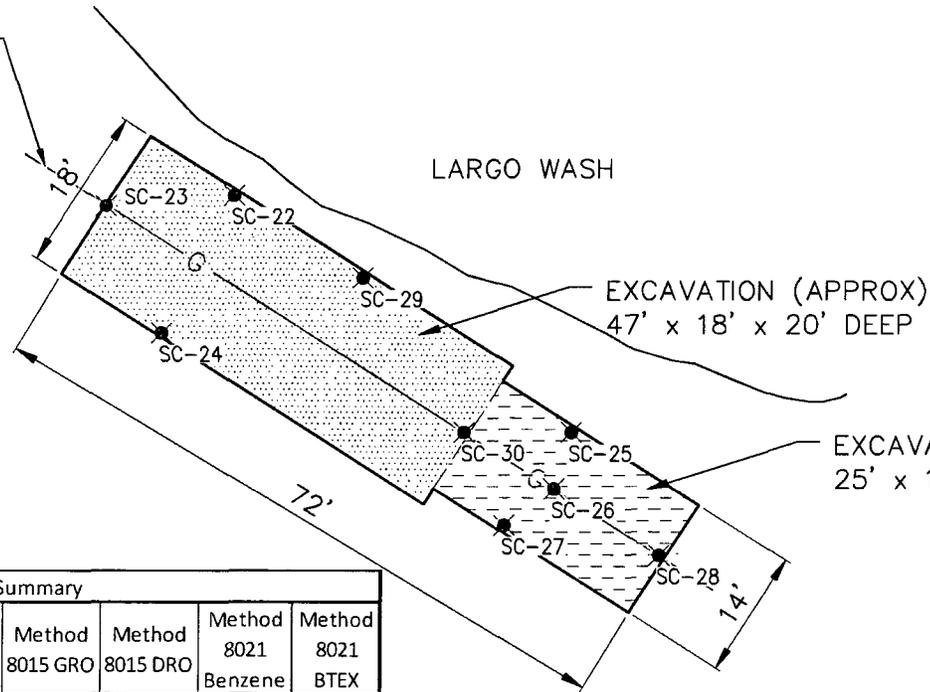
Designed SM	Drawn DJB	Checked RSA
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**SOIL CONTAMINANT CONCENTRATION MAP**  
**TRUNK K-2**  
**SECTION 26, T27N, R8W**

Date:	9/18/14
Scale: Horiz:	1"=20'
Vert:	N/A
Project No:	5122855
Sheet:	10

SAN JUAN COUNTY, NEW MEXICO

TRUNK K 16" LINE



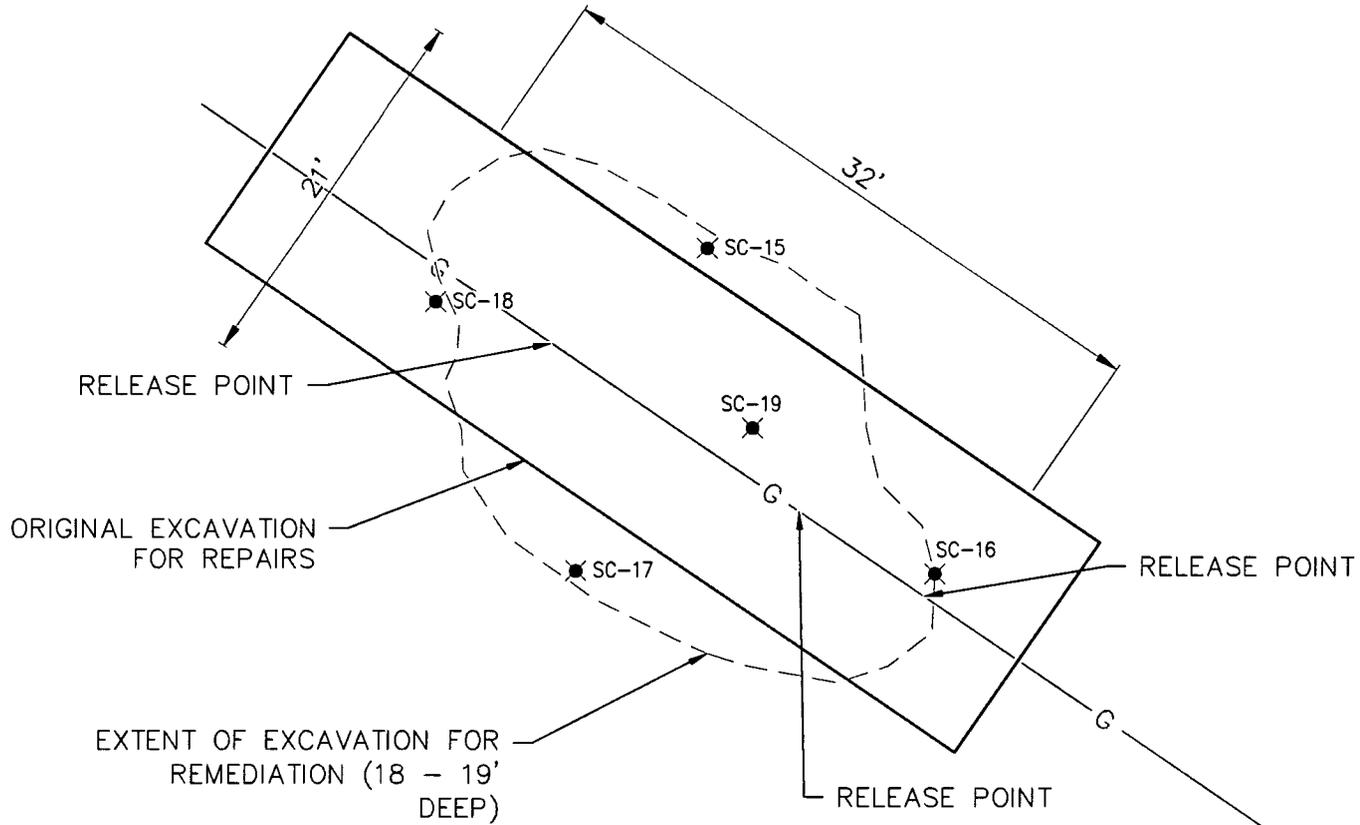
Trunk K #3 Laboratory Results Summary							
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 40		100 ppm TPH		10 ppm	50 ppm
9/25/2014	15:21	SC-24 S Wall	6-20	<4.4	<10	<0.044	<0.088
9/25/2014	15:25	SC-25 NE Wall	0-8	<4.2	33	<0.042	<0.084
9/25/2014	15:27	SC-26 E Base	8	<4.0	13	<0.040	<0.080
9/25/2014	15:29	SC-27 SE Wall	0-8	<4.2	<10	<0.042	<0.084
9/25/2014	15:30	SC-28 E Wall	0-8	<4.3	19	<0.043	<0.085
9/25/2014	15:38	SC-29 N Central Wall	0-20	<4.2	<10	<0.042	<0.084
9/25/2014	15:40	SC-30 E Wall (Deep Exc)	8-20	<4.6	<10	<0.046	<0.092
9/25/2014	15:15	SC-22 N Wall, West Side	0-20	<4.3	<10	<0.043	<0.086
9/25/2014	15:17	SC-23 W Wall	6-20	<4.2	<9.8	<0.042	<0.083

LEGEND

SOIL SAMPLE LOCATION  
RESULTS IN mg/kg REPORTED 9-29-14



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		<b>SOIL CONTAMINANT CONCENTRATION MAP</b> TRUNK K-3 SECTION 26, T27N, R8W		Date: 10/15/14 Scale: Horiz: 1"=20' Vert: N/A Project No: 5122855 Sheet: 11



LEGEND

● SOIL SAMPLE LOCATION  
RESULTS IN mg/kg REPORTED 10-1-14



Trunk K #4 Laboratory Results Summary							
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 30		100 ppm TPH	10 ppm	50 ppm	
9/25/2014	14:31	SC-14 Base	19	<4.3	<10	<0.043	<0.086
9/25/2014	14:35	SC-15 N Wall	0-19	<3.8	<10	<0.038	<0.076
9/25/2014	14:39	SC-16 E Wall	0-19	<4.1	<10	<0.041	<0.082
9/25/2014	14:46	SC-17 S Wall	0-18	<4.9	<10	<0.049	<0.099
9/25/2014	14:51	SC-18 W Wall	0-18	<4.0	<10	<0.040	<0.080



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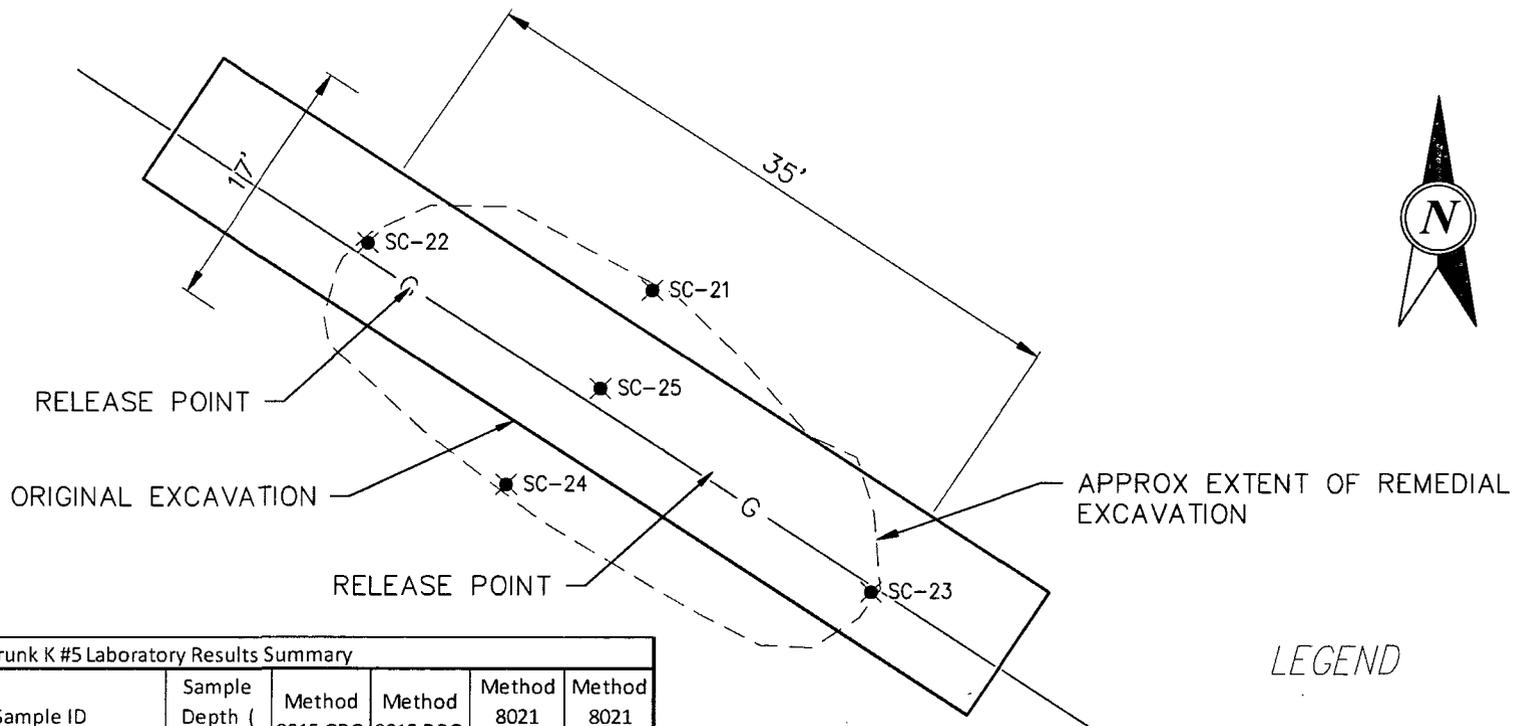
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SOIL CONTAMINANT CONCENTRATION MAP  
TRUNK K-4  
SECTION 26, T27N, R8W

SAN JUAN COUNTY, NEW MEXICO

Designed	Drawn	Checked
SM	DJB	RSA
Date: 9/18/14		
Scale: Horiz: 1"=20'		
Vert: N/A		
Project No: 5122855		
Sheet: 12		



Trunk K #5 Laboratory Results Summary							
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines			NMOCD Site Ranking: 40		100 ppm TPH	10 ppm	50 ppm
9/24/2014	16:10	SC-21 N Wall	0-15	<4.2	<9.9	<0.042	<0.084
9/24/2014	16:17	SC-22 W Wall	0-15	<4.1	<10	<0.041	<0.083
9/24/2014	16:25	SC-23 E wall	0-15	<4.4	<10	<0.044	<0.089
9/24/2014	16:27	SC-24 S Wall	0-15	<3.6	<10	<0.036	<0.073
9/24/2014	16:30	SC-25 Base	15	<5.0	<10	<0.050	<0.099

LEGEND

● SOIL SAMPLE LOCATION  
RESULTS IN mg/kg REPORTED 9-26-14

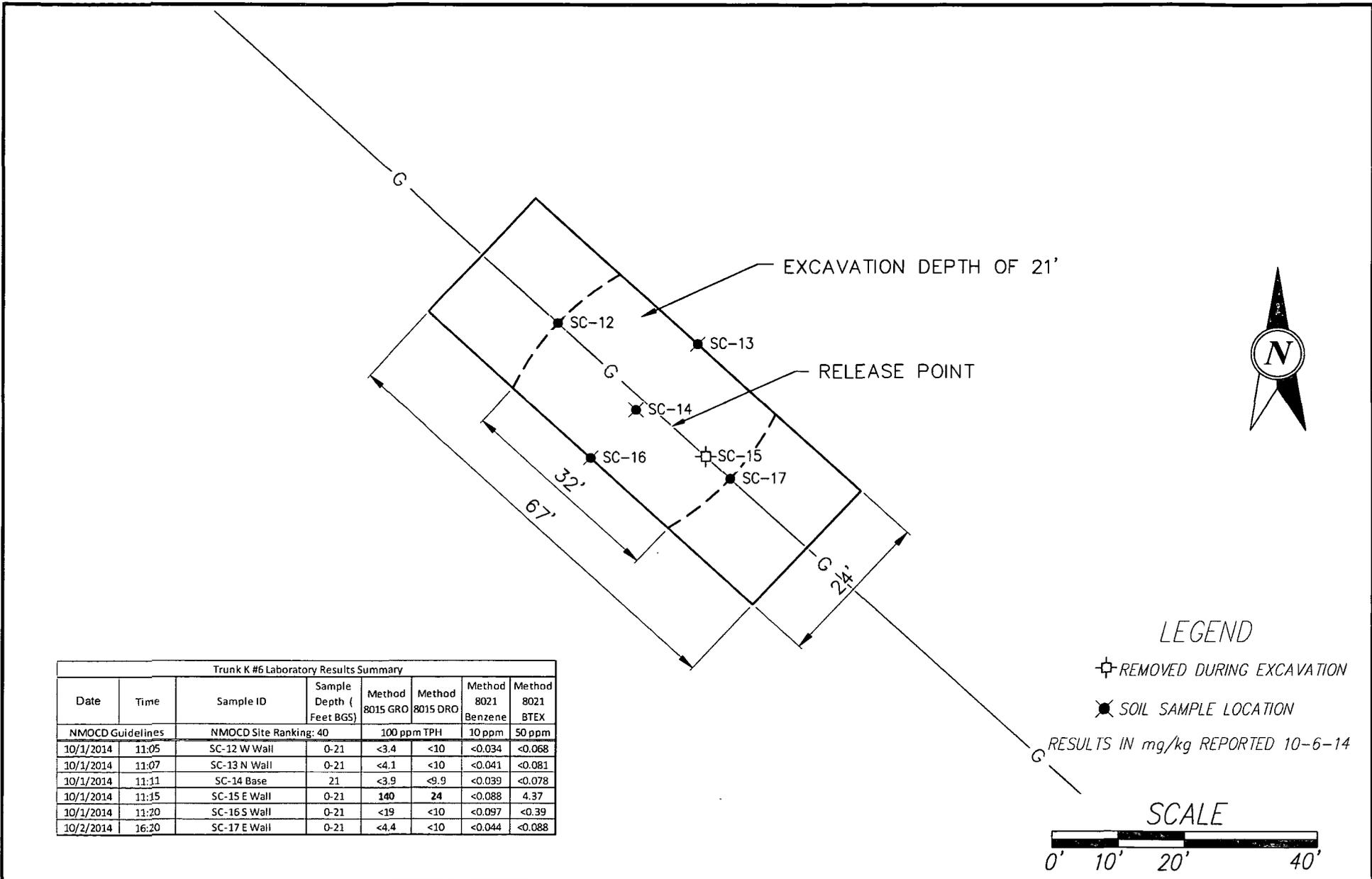
SCALE



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		<b>SOIL CONTAMINANT CONCENTRATION MAP</b> <b>TRUNK K-5</b> <b>SECTION 26, T27N, R8W</b>			Date: 9/18/14	Scale: Horiz: 1"=20' Vert: N/A

SAN JUAN COUNTY, NEW MEXICO

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Trunk K #6 Laboratory Results Summary							
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines			NMOCD Site Ranking: 40		100 ppm TPH	10 ppm	50 ppm
10/1/2014	11:05	SC-12 W Wall	0-21	<3.4	<10	<0.034	<0.068
10/1/2014	11:07	SC-13 N Wall	0-21	<4.1	<10	<0.041	<0.081
10/1/2014	11:11	SC-14 Base	21	<3.9	<9.9	<0.039	<0.078
10/1/2014	11:15	SC-15 E Wall	0-21	140	24	<0.088	4.37
10/1/2014	11:20	SC-16 S Wall	0-21	<19	<10	<0.097	<0.39
10/2/2014	16:20	SC-17 E Wall	0-21	<4.4	<10	<0.044	<0.088



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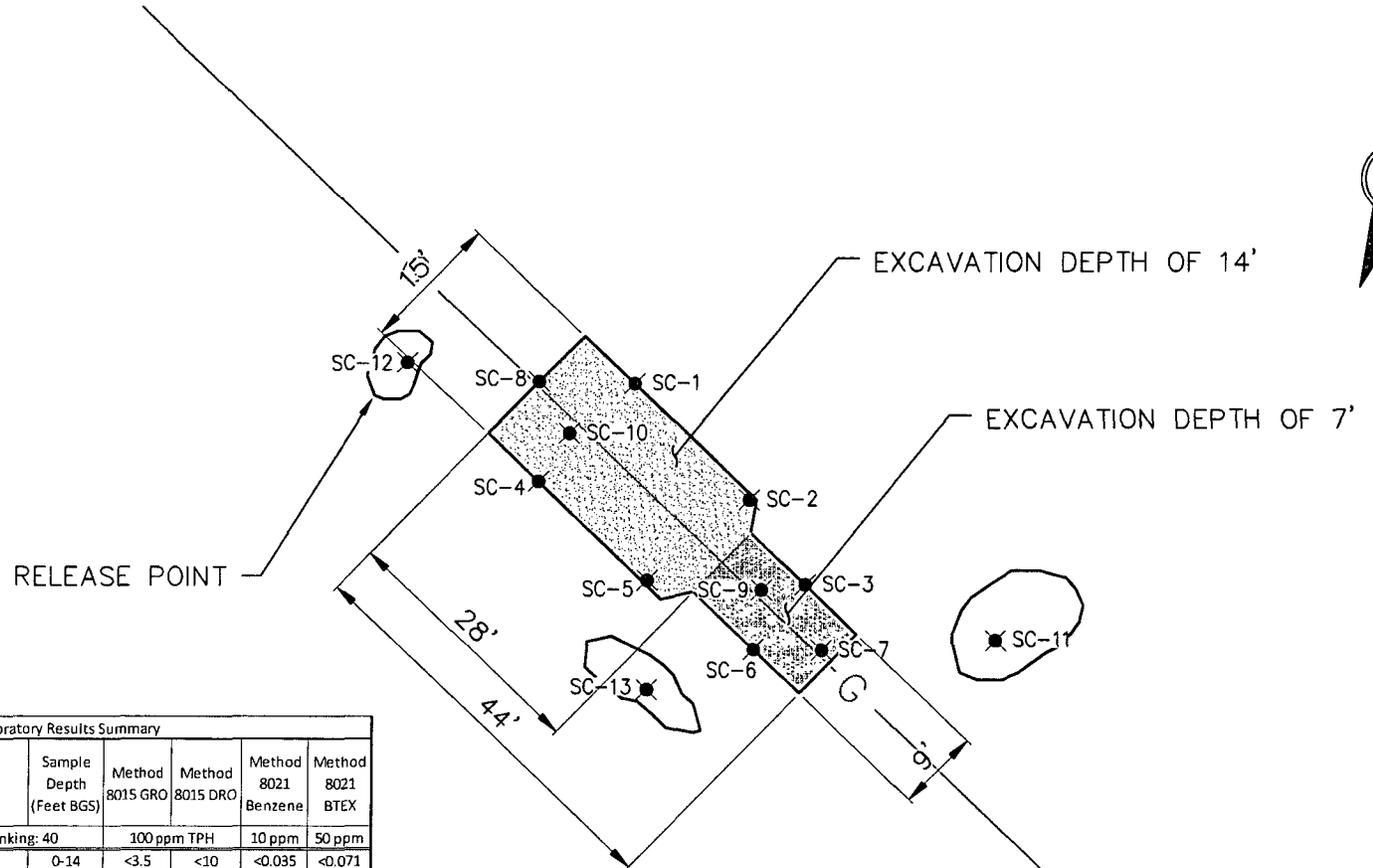
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SOIL CONTAMINANT CONCENTRATION MAP  
 TRUNK K-6  
 SECTION 25, T27N, R8W

SAN JUAN COUNTY, NEW MEXICO

Designed SM	Drawn DJB	Checked RSA
Date: 9/18/14		
Scale: Horiz: 1"=20' Vert: N/A		
Project No: 5122855		
Sheet: 14		



Trunk K #7 Laboratory Results Summary							
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 40		100 ppm TPH		10 ppm	50 ppm
11/6/2014	10:01	SC-1 NW Wall	0-14	<3.5	<10	<0.035	<0.071
11/6/2014	10:03	SC-2 NC Wall	0-14	<3.6	<9.8	<0.036	<0.073
11/6/2014	10:05	SC-3 NE Wall	0-7	<3.2	<9.9	<0.032	<0.064
11/6/2014	10:09	SC-4 SW Wall	0-14	<3.4	<9.9	<0.034	<0.069
11/6/2014	10:11	SC-5 SC Wall	0-14	<3.5	<10	<0.035	<0.069
11/6/2014	10:15	SC-6 SE Wall	0-7	<3.4	<9.9	<0.034	<0.068
11/6/2014	10:18	SC-7 E Wall	0-7	<3.4	<10	<0.034	<0.068
11/6/2014	10:21	SC-8 W Wall	0-14	<3.5	<10	<0.035	<0.070
11/6/2014	10:23	SC-9 E Base	7	<3.4	<10	<0.034	<0.067
11/6/2014	10:26	SC-10 W Base	14	<3.4	<9.9	<0.034	<0.068
11/6/2014	10:29	SC-11 SP-1	-	<3.9	<10	<0.039	<0.078
11/6/2014	10:31	SC-12 SP-2	-	<3.9	<10	<0.039	<0.078
11/6/2014	10:35	SC-13 SP-3	-	<3.9	<9.9	<0.039	<0.077

LEGEND

● SOIL SAMPLE LOCATION

RESULTS IN mg/kg REPORTED 11-10-14

SCALE



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**SOIL CONTAMINANT CONCENTRATION MAP**  
**TRUNK K #7**  
**SECTION 26, T27N, R8W**

SAN JUAN COUNTY, NEW MEXICO

Designed SM	Drawn DJB	Checked RSA
Date: 9/18/14		
Scale: Horiz: 1"=10' Vert: N/A		
Project No: 5122855		
Sheet: 15		

## **Tables**

Site Ranking Information: Trunk K #1 Pipeline Release Site			
Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20	20	Field verification that release is located 190 feet west of Largo Canyon Wash	Groundwater was encountered at 24 feet below ground surface.
50' to 99' = 10			
>100' = 0			
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20	20	Field verification that release is located 190 feet west of Largo Canyon Wash	Release is located less than 200 feet from Largo Canyon Wash
200'-1000' = 10			
>1000'			
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200' for a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database	No recorded water wells located within 1,000 feet and 1 located within a 1 mile radius
<b>Total Site Ranking</b>	<b>40</b>		
Soil Remediation Standards	0 to 9	10 to 19	>19
<b>Benzene</b>	10 PPM	10 PPM	<b>10 PPM</b>
<b>BTEX</b>	50 PPM	50 PPM	<b>50 PPM</b>
<b>TPH</b>	5000 PPM	1000 PPM	<b>100 PPM</b>

Site Ranking Information: Trunk K #2 Pipeline Release Site			
Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20	20	Field verification that release is located 165 feet west of Largo Canyon Wash	Groundwater was encountered at 18 feet below ground surface.
50' to 99' = 10			
>100' = 0			
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20	20	Field verification that release is located 165 feet west of Largo Canyon Wash	Release is located less than 200 feet from Largo Canyon Wash
200'-1000' = 10			
>1000'			
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200' for a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database	No recorded water wells located within 1,000 feet and 1 located within a 1 mile radius
<b>Total Site Ranking</b>	<b>40</b>		
Soil Remediation Standards	0 to 9	10 to 19	>19
<b>Benzene</b>	10 PPM	10 PPM	<b>10 PPM</b>
<b>BTEX</b>	50 PPM	50 PPM	<b>50 PPM</b>
<b>TPH</b>	5000 PPM	1000 PPM	<b>100 PPM</b>



Site Ranking Information: Trunk K #3 Pipeline Release Site			
Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20	20	Field verification that release is located 105 feet west of Largo Canyon Wash	Groundwater was encountered at approximately 20 feet below ground surface.
50' to 99' = 10			
>100' = 0			
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20	20	Field verification that release is located 105 feet west of Largo Canyon Wash	Release is located less than 200 feet from Largo Canyon Wash
200'-1000' = 10			
>1000'			
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200' for a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database	No recorded water wells located within 1,000 feet and 1 located within a 1 mile radius
<b>Total Site Ranking</b>		<b>40</b>	
<b>Soil Remediation Standards</b>	<b>0 to 9</b>	<b>10 to 19</b>	<b>&gt;19</b>
<b>Benzene</b>	10 PPM	10 PPM	10 PPM
<b>BTEX</b>	50 PPM	50 PPM	50 PPM
<b>TPH</b>	5000 PPM	1000 PPM	100 PPM

Site Ranking Information: Trunk K #4 Pipeline Release Site			
Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20	20	Field verification that release is located 425 feet west of Largo Canyon Wash	Groundwater not encountered during excavation; assumed that groundwater is < 25' below ground surface.
50' to 99' = 10			
>100' = 0			
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20	10	Field verification that release is located 425 feet west of Largo Canyon Wash	Release is located between 200' -1,000' from Largo Canyon Wash
200'-1000' = 10			
>1000'			
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200' for a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database	No recorded water wells located within 1,000 feet and 1 located within a 1 mile radius
<b>Total Site Ranking</b>		<b>30</b>	
<b>Soil Remediation Standards</b>	<b>0 to 9</b>	<b>10 to 19</b>	<b>&gt;19</b>
<b>Benzene</b>	10 PPM	10 PPM	10 PPM
<b>BTEX</b>	50 PPM	50 PPM	50 PPM
<b>TPH</b>	5000 PPM	1000 PPM	100 PPM



Site Ranking Information: Trunk K #5 Pipeline Release Site			
Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20	20	Field verification that release is located 370 feet west of Largo Canyon Wash	Groundwater not encountered during excavation; assumed that groundwater is < 25' below ground surface.
50' to 99' = 10			
>100' = 0			
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20	10	Field verification that release is located 370 feet west of Largo Canyon Wash	Release is located between 200' -1,000' from Largo Canyon Wash
200'-1000' = 10			
>1000'			
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200' for a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database	No recorded water wells located within 1,000 feet and 1 located within a 1 mile radius
<b>Total Site Ranking</b>		<b>30</b>	
Soil Remediation Standards	0 to 9	10 to 19	>19
Benzene	10 PPM	10 PPM	10 PPM
BTEX	50 PPM	50 PPM	50 PPM
TPH	5000 PPM	1000 PPM	100 PPM

Site Ranking Information: Trunk K #6 Pipeline Release Site			
Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20	20	Field verification that release is located in a small tributary of Largo Canyon Wash	Groundwater not encountered during excavation; assumed to be approximately 40' below ground surface.
50' to 99' = 10			
>100' = 0			
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20	20	Field verification that release is located in a small tributary of Largo Canyon Wash	Release is located in a small tributary of Largo Canyon Wash
200'-1000' = 10			
>1000'			
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200' for a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database	No recorded water wells located within 1,000 feet and 1 located within a 1 mile radius
<b>Total Site Ranking</b>		<b>40</b>	
Soil Remediation Standards	0 to 9	10 to 19	>19
Benzene	10 PPM	10 PPM	10 PPM
BTEX	50 PPM	50 PPM	50 PPM
TPH	5000 PPM	1000 PPM	100 PPM



Site Ranking Information: Trunk K #7 Pipeline Release Site			
<b>Depth to Groundwater</b>	<b>NMOCD Numeric Rank for this Site</b>	<b>Source for Ranking</b>	<b>Notes</b>
< 50 BGS = 20	20	Field verification that release is located 160 feet west of Largo Canyon Wash	Groundwater is assumed to be approximately 25 feet below ground surface.
50' to 99' = 10			
>100' = 0			
<b>Ranking Criteria for Horizontal Distance to Nearest Surface Water</b>	<b>NMOCD Numeric Rank for this Site</b>	<b>Source for Ranking</b>	<b>Notes</b>
< 200' = 20	20	Field verification that release is located 160 feet west of Largo Canyon Wash	Release is located less than 200 feet from Largo Canyon Wash
200'-1000' = 10			
>1000'			
<b>Ranking Criteria for Horizontal Distance to a Water Well or Water Source</b>	<b>NMOCD Numeric Rank for this Site</b>	<b>Source for Ranking</b>	<b>Notes</b>
<1000' from a water source? <200' for a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database	No recorded water wells located within 1,000 feet and 1 located within a 1 mile radius
<b>Total Site Ranking</b>		<b>40</b>	
<b>Soil Remediation Standards</b>	<b>0 to 9</b>	<b>10 to 19</b>	<b>&gt;19</b>
<b>Benzene</b>	10 PPM	10 PPM	10 PPM
<b>BTEX</b>	50 PPM	50 PPM	50 PPM
<b>TPH</b>	5000 PPM	1000 PPM	100 PPM

Table 3: Summary of Laboratory Analysis (mg/kg)

11/19/2014

Trunk K #1 Laboratory Results Summary							
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 40		100 ppm TPH		10 ppm	50 ppm
9/2/2014	14:35	SC-3 NE Wall	0-7	<2.8	<9.9	<0.028	<0.056
9/2/2014	14:37	SC-4 E Wall	0-7	<3.9	<9.8	<0.039	<0.078
9/2/2014	14:38	SC-5 SE Wall	0-7	<4.0	<10	<0.040	<0.080
9/2/2014	14:40	E Base	7	<3.0	<10	<0.030	<0.060
9/2/2014	14:42	SC-6 S Central Wall	0-7	<3.2	<10	<0.032	<0.064
9/2/2014	14:46	SC-7 SW Wall	0-7	18	12	<0.032	2.26
9/2/2014	14:49	SC-8 W Wall	0-7	<3.3	<b>110</b>	<0.033	0.383
9/2/2014	14:02	SC-14 N Central Base	23	<4.4	11	<0.044	<0.088
9/3/2014	11:45	SC-18 N Wall, West Corner	10	<4.5	<10	<0.045	<0.091
9/4/2014	14:37	SC-27 SW Wall	0-24	<4.7	<9.9	<0.047	<0.093
9/4/2014	15:12	SC-11 N Central Base	9	<4.3	<10	<0.043	<0.087
9/4/2014	15:20	SC-8 W Wall	0-24	5.6	<10	<0.037	0.385

Trunk K #2 Laboratory Results Summary							
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 40		100 ppm TPH		10 ppm	50 ppm
10/3/2014	11:10	SC-33 S Base	18	8.8	<9.8	0.037	0.14
10/3/2014	11:12	SC-29 S Central Wall	0-18	<5.0	<10	<0.050	0.26
10/3/2014	11:14	SC-31 E Wall S of PL	0-18	<4.5	<10	<0.045	0.40
10/3/2014	11:20	SC-34 NE Base	18	<3.9	<9.8	<0.039	<0.077
10/3/2014	11:22	SC-26 NE Wall	0-18	<5.5	<10	<0.055	0.29
10/3/2014	11:24	SC-28 E Wall N of PL	0-18	<5.0	<10	<0.050	0.37
10/3/2014	11:30	SC-13 N Central Base	18	<3.6	<9.9	<0.036	0.14
10/3/2014	11:32	SC-12 N Central Wall	0-18	<5.0	<10	<0.050	0.22
10/3/2014	11:38	SC-35 NW Base	18	<2.8	<9.9	<0.028	0.097
10/3/2014	11:41	SC-36 NW Wall	0-18	<5.0	<10	<0.050	0.29
10/3/2014	11:44	SC-32 W Wall N of PL	0-18	<5.0	<9.9	<0.050	0.48
10/15/2014	11:10	SC-37 SW Base	18	<3.4	<10	<0.034	<0.068
10/15/2014	11:12	SC-38 W Wall	0-18	<4.3	<10	<0.043	0.13
10/15/2014	11:14	SC-39 S Wall (W)	0-18	<4.6	<9.9	<0.046	<0.092
10/15/2014	11:20	SC-40 S Wall E	0-18	72	42	<0.092	4.31



Trunk K #3 Laboratory Results Summary							
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 40		100 ppm TPH		10 ppm	50 ppm
9/25/2014	15:21	SC-24 S Wall	6-20	<4.4	<10	<0.044	<0.088
9/25/2014	15:25	SC-25 NE Wall	0-8	<4.2	33	<0.042	<0.084
9/25/2014	15:27	SC-26 E Base	8	<4.0	13	<0.040	<0.080
9/25/2014	15:29	SC-27 SE Wall	0-8	<4.2	<10	<0.042	<0.084
9/25/2014	15:30	SC-28 E Wall	0-8	<4.3	19	<0.043	<0.085
9/25/2014	15:38	SC-29 N Central Wall	0-20	<4.2	<10	<0.042	<0.084
9/25/2014	15:40	SC-30 E Wall (Deep Exc)	8-20	<4.6	<10	<0.046	<0.092
9/25/2014	15:15	SC-22 N Wall, West Side	0-20	<4.3	<10	<0.043	<0.086
9/25/2014	15:17	SC-23 W Wall	6-20	<4.2	<9.8	<0.042	<0.083

Trunk K #4 Laboratory Results Summary							
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 30		100 ppm TPH		10 ppm	50 ppm
9/25/2014	14:31	SC-14 Base	19	<4.3	<10	<0.043	<0.086
9/25/2014	14:35	SC-15 N Wall	0-19	<3.8	<10	<0.038	<0.076
9/25/2014	14:39	SC-16 E Wall	0-19	<4.1	<10	<0.041	<0.082
9/25/2014	14:46	SC-17 S Wall	0-18	<4.9	<10	<0.049	<0.099
9/25/2014	14:51	SC-18 W Wall	0-18	<4.0	<10	<0.040	<0.080

Trunk K #5 Laboratory Results Summary							
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 40		100 ppm TPH		10 ppm	50 ppm
9/24/2014	16:10	SC-21 N Wall	0-15	<4.2	<9.9	<0.042	<0.084
9/24/2014	16:17	SC-22 W Wall	0-15	<4.1	<10	<0.041	<0.083
9/24/2014	16:25	SC-23 E wall	0-15	<4.4	<10	<0.044	<0.089
9/24/2014	16:27	SC-24 S Wall	0-15	<3.6	<10	<0.036	<0.073
9/24/2014	16:30	SC-25 Base	15	<5.0	<10	<0.050	<0.099



Table 3: Summary of Laboratory Analysis (mg/kg)

11/19/2014

Trunk K #6 Laboratory Results Summary							
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 40		100 ppm TPH		10 ppm	50 ppm
10/1/2014	11:05	SC-12 W Wall	0-21	<3.4	<10	<0.034	<0.068
10/1/2014	11:07	SC-13 N Wall	0-21	<4.1	<10	<0.041	<0.081
10/1/2014	11:11	SC-14 Base	21	<3.9	<9.9	<0.039	<0.078
10/1/2014	11:15	SC-15 E Wall	0-21	<b>140</b>	<b>24</b>	<0.088	4.37
10/1/2014	11:20	SC-16 S Wall	0-21	<19	<10	<0.097	<0.39
10/2/2014	16:20	SC-17 E Wall	0-21	<4.4	<10	<0.044	<0.088

Trunk K #7 Laboratory Results Summary							
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX
NMOCD Guidelines		NMOCD Site Ranking: 40		100 ppm TPH		10 ppm	50 ppm
11/6/2014	10:01	SC-1 NW Wall	0-14	<3.5	<10	<0.035	<0.071
11/6/2014	10:03	SC-2 NC Wall	0-14	<3.6	<9.8	<0.036	<0.073
11/6/2014	10:05	SC-3 NE Wall	0-7	<3.2	<9.9	<0.032	<0.064
11/6/2014	10:09	SC-4 SW Wall	0-14	<3.4	<9.9	<0.034	<0.069
11/6/2014	10:11	SC-5 SC Wall	0-14	<3.5	<10	<0.035	<0.069
11/6/2014	10:15	SC-6 SE Wall	0-7	<3.4	<9.9	<0.034	<0.068
11/6/2014	10:18	SC-7 E Wall	0-7	<3.4	<10	<0.034	<0.068
11/6/2014	10:21	SC-8 W Wall	0-14	<3.5	<10	<0.035	<0.070
11/6/2014	10:23	SC-9 E Base	7	<3.4	<10	<0.034	<0.067
11/6/2014	10:26	SC-10 W Base	14	<3.4	<9.9	<0.034	<0.068
11/6/2014	10:29	SC-11 SP-1	-	<3.9	<10	<0.039	<0.078
11/6/2014	10:31	SC-12 SP-2	-	<3.9	<10	<0.039	<0.078
11/6/2014	10:35	SC-13 SP-3	-	<3.9	<9.9	<0.039	<0.077



# **Appendix A**

## **Photographic Documentation**

Enterprise Products  
Photographic Documentation  
Trunk K Pipeline Release Sites

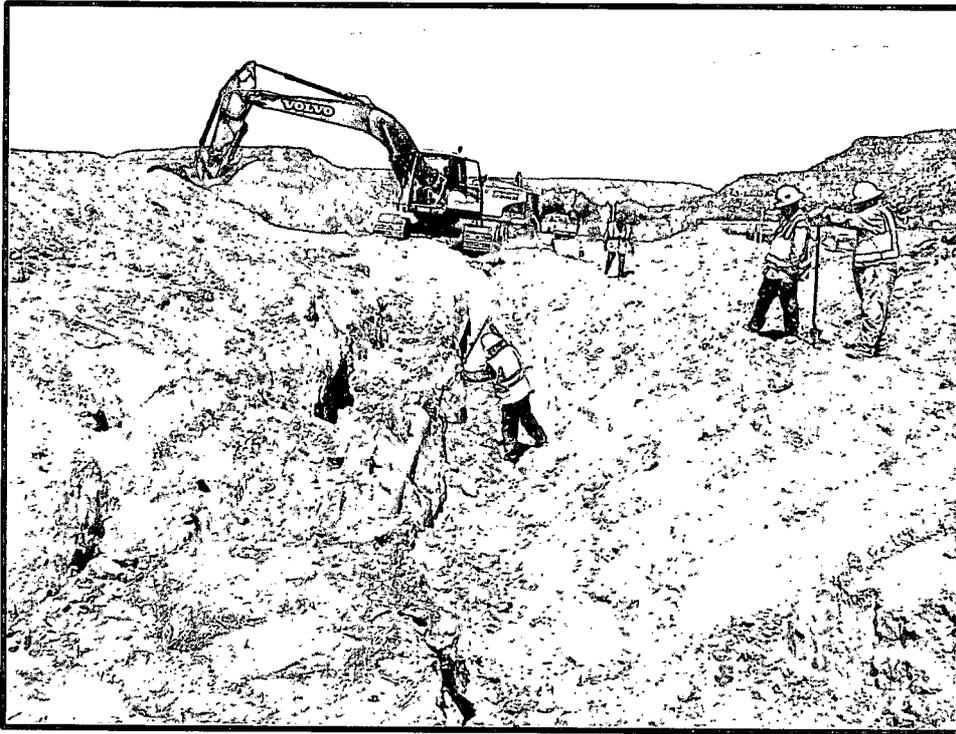


Photo 1: Initial excavation of the Trunk K #1 pipeline release.

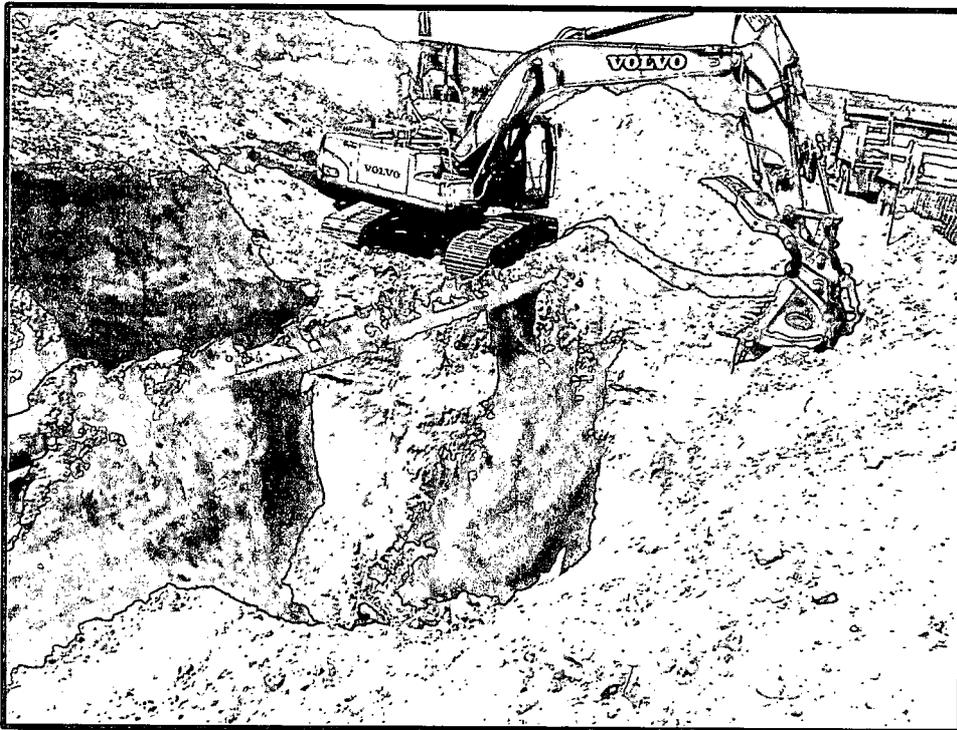


Photo 2: Near complete excavation of the Trunk K #1 pipeline release with a maximum depth of 24'.



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Photographic Documentation  
Trunk K Pipeline Release Sites

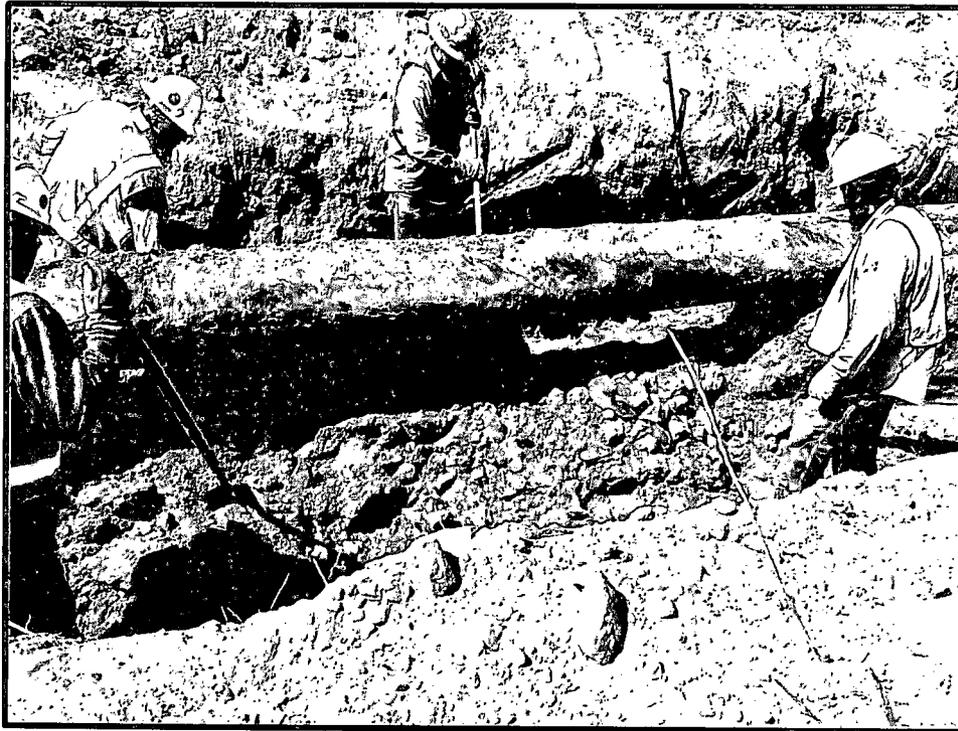


Photo 3: First stage of the Trunk K #2 pipeline excavation. Note extensive staining.

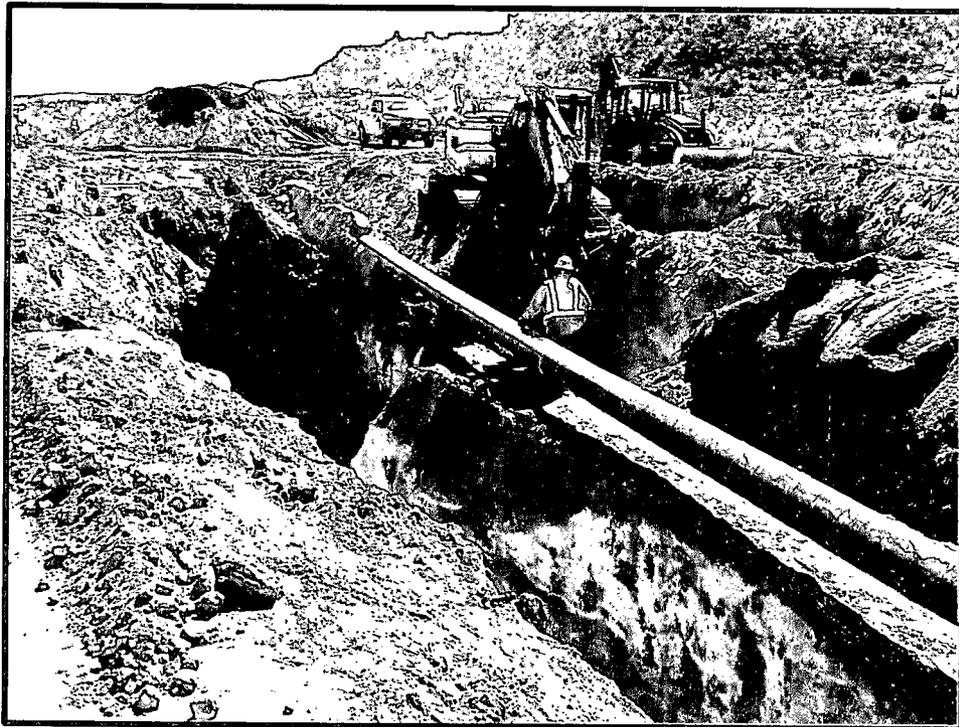


Photo 4: Phase 2 of the overall excavation of the Trunk K #2 pipeline release.



Enterprise Products  
Photographic Documentation  
Trunk K Pipeline Release Sites

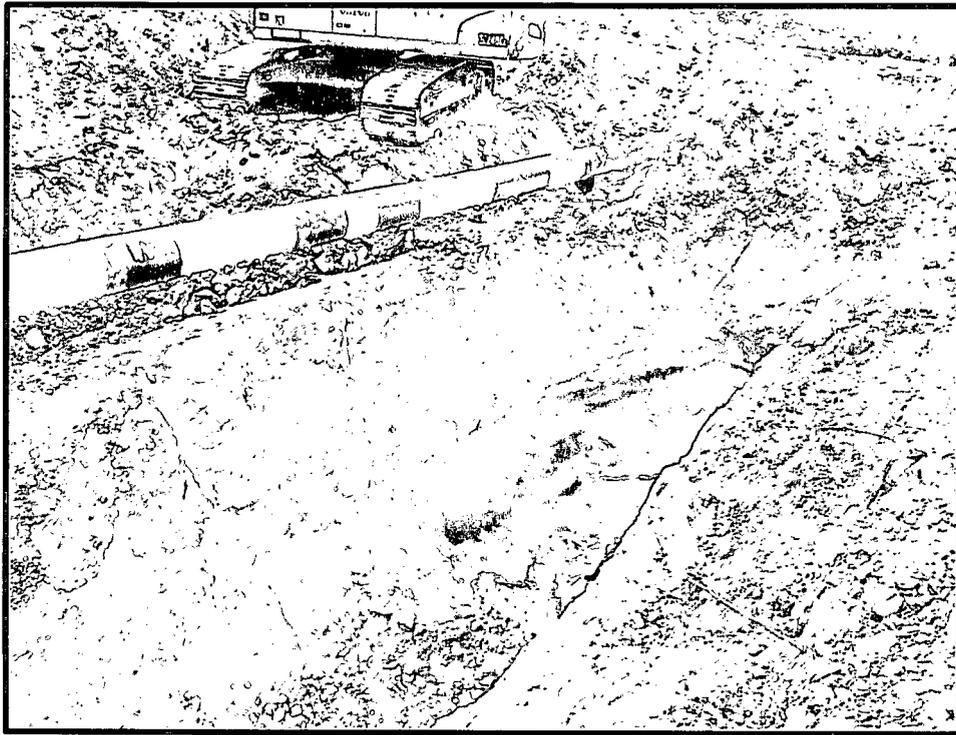


Photo 5: Groundwater found at approximately 21' during the Trunk K #3 excavation.



Photo 6: Complete excavation of the Trunk K #3 pipeline release.



Enterprise Products  
Photographic Documentation  
Trunk K Pipeline Release Sites



Photo 7: The Trunk K #4 release prior to excavation activities.



Photo 8: Near complete excavation of the Trunk K #4 pipeline release.



Enterprise Products  
Photographic Documentation  
Trunk K Pipeline Release Sites

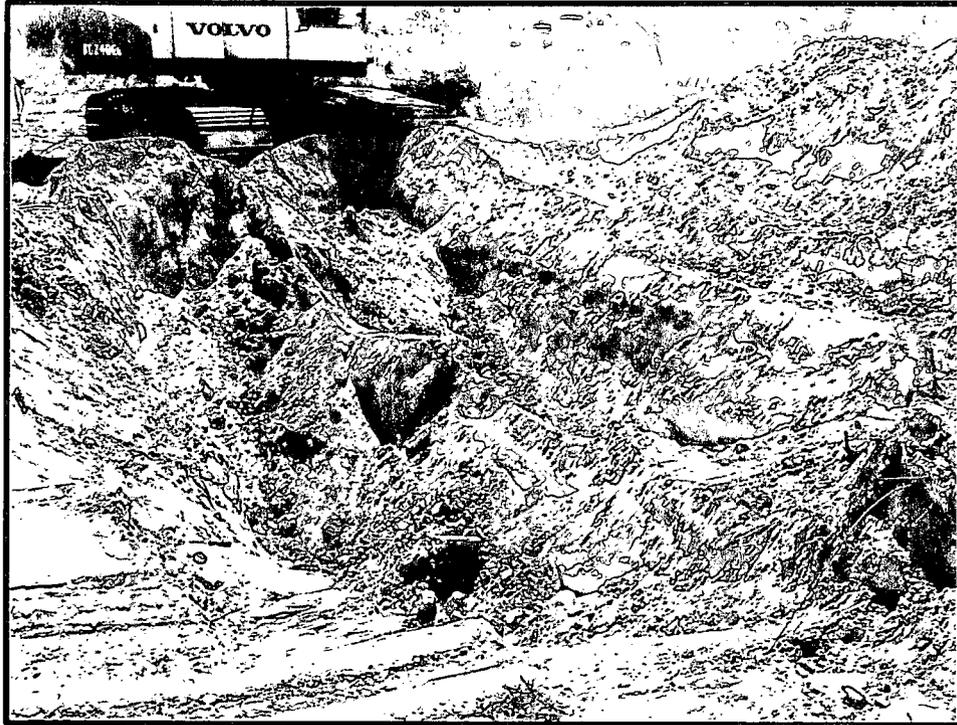


Photo 9: The beginning excavation of the Trunk K #5 release site.

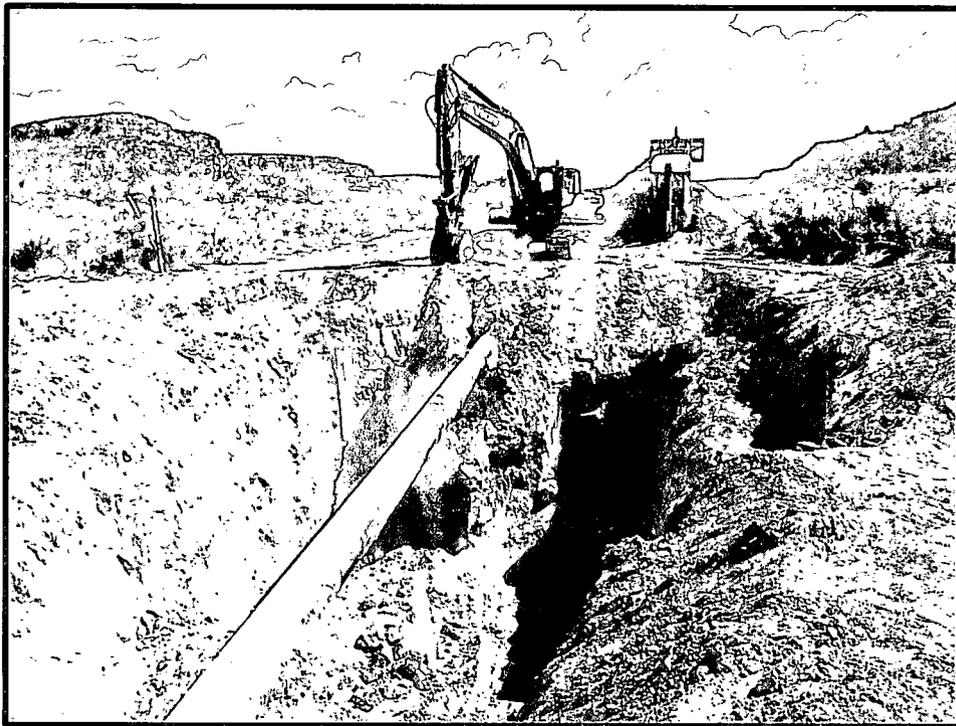


Photo 10: Near complete excavation of the Trunk K #5 pipeline release site.



Enterprise Products  
Photographic Documentation  
Trunk K Pipeline Release Sites

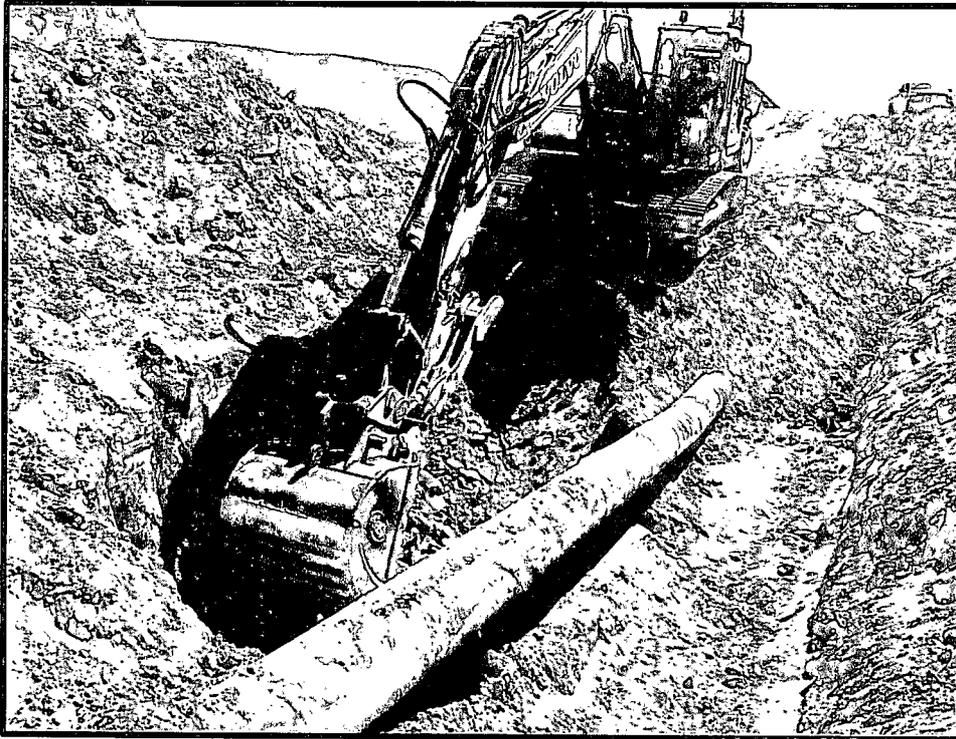


Photo 11: Early stages of the Trunk K #6 pipeline release site with a depth of 7' in sandstone.

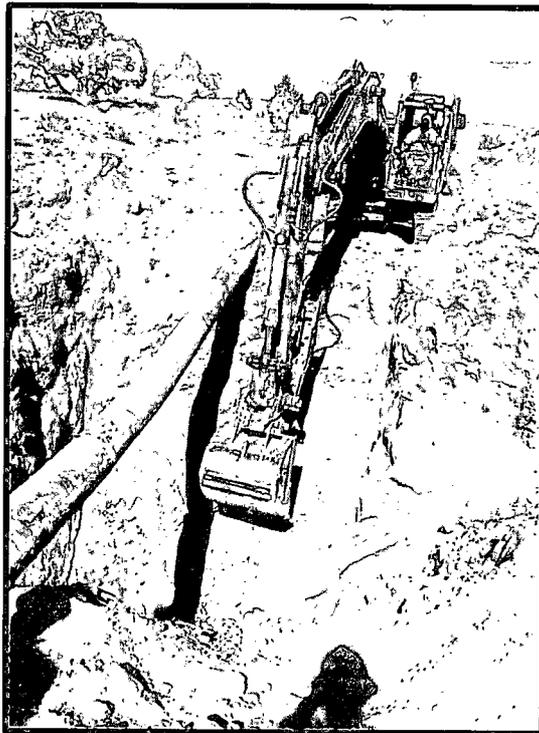


Photo 12: Near complete excavation of the Trunk K #6 pipeline release; approaching a depth of 21'.



Enterprise Products  
Photographic Documentation  
Trunk K Pipeline Release Sites

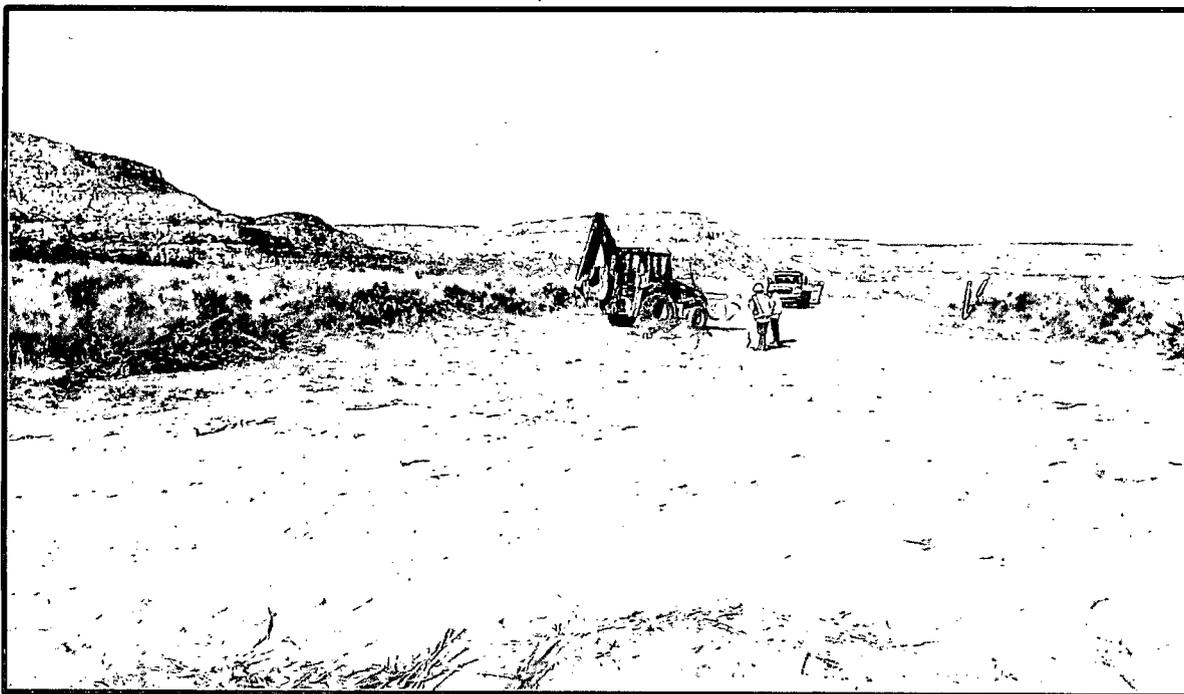


Photo 13: The Trunk K #7 release site being prepared for excavation activities.

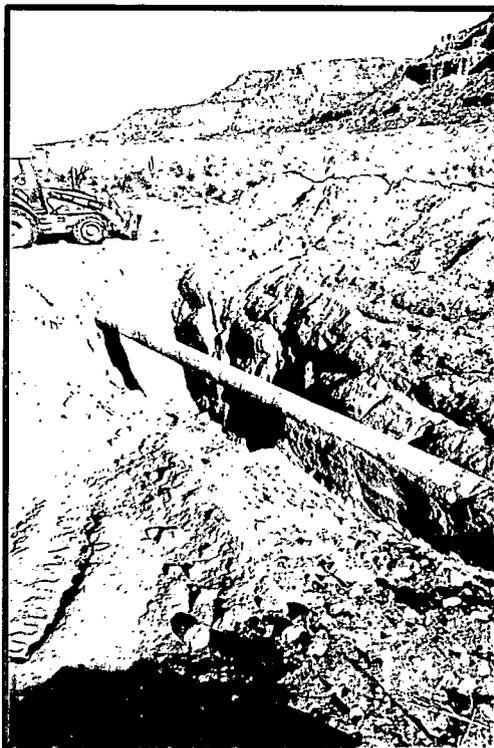


Photo 14: Near complete excavation of the Trunk K #7 pipeline release site.



**Appendix B**  
**Soil Disposal Documentation**

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

State of New Mexico  
Energy Minerals and Natural Resources **97057-0652**  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-138  
Revised 08/01/11

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

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:  
Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site: Trunk K Pipeline Aug. 2014

3. Location of Material (Street Address, City, State or ULSTR):  
Unit Letter B & K Sec 26 T 27 N R 8W, GPS: Site 1: 36.54473, -107.64408, Site 2: 36.54540, -107.64504, Site 3: 36.54730, -107.64737, Site 4: 36.54958, -107.65009, San Juan County, NM

4. Source and Description of Waste:  
Source: Natural Gas Pipeline Release  
Description: Exempt petroleum affected soil from clean-up efforts at pipeline release.  
Estimated Volume 200 yd<sup>3</sup> bbls Known Volume (to be entered by the operator at the end of the haul) 94 yd<sup>3</sup> bbls

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

I, Thomas Long, representative or authorized agent for Enterprise Field Services, LLC do hereby  
**Generator Signature**  
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)  
 RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. **Operator Use Only: Waste Acceptance Frequency**  Monthly  Weekly  Per Load  
 RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)  
 MSDS Information  RCRA Hazardous Waste Analysis  Process Knowledge  Other (Provide description in Box 4)

#### GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long, 8-21-14, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete  
**Generator Signature**  
the required testing/sign the Generator Waste Testing Certification.  
I, Kendra Running, representative for Envirotech, Inc. do hereby certify that  
**Representative Agent Signature**  
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: ~~JMI, West States Energy~~ Contractors or unknown trucking company on OCD approved haulers list.

OCD Permitted Surface Waste Management Facility Paul & Sons, EMS, Ritchey  
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: Kendra Running TITLE: Waste Coordinator DATE: 8/21/14  
SIGNATURE: Kendra Running TELEPHONE NO.: 505-632-0615  
Surface Waste Management Facility Authorized Agent

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

State of New Mexico  
Energy Minerals and Natural Resources 97057-0652  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-138  
Revised 08/01/11

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

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

**1. Generator Name and Address:**

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

**2. Originating Site: Trunk K Pipeline**

Sep. 2014

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

Unit Letter B & K Sec 26 T 27 N R 8W, GPS: Site 1: 36.54473, -107.64408, Site 2: 36.54540, -107.64504, Site 3: 36.54730, -107.64737, Site 4: 36.54958, -107.65009, San Juan County, NM

**4. Source and Description of Waste:**

Source: Natural Gas Pipeline Release

Description: Exempt petroleum affected soil from clean-up efforts at pipeline release.

Estimated Volume 200 yd<sup>3</sup> Known Volume (to be entered by the operator at the end of the haul) 3240 yd<sup>3</sup> bbls

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

I, Thomas Long, representative or authorized agent for Enterprise Field Services, LLC do hereby

**Generator Signature**

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency  Monthly  Weekly  Per Load

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

MSDS Information  RCRA Hazardous Waste Analysis  Process Knowledge  Other (Provide description in Box 4)

**GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS**

I, Thomas Long, 8-21-14, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete

**Generator Signature**

the required testing/sign the Generator Waste Testing Certification.

I, Kendra Runnung, representative for Envirotech, Inc do hereby certify that

**Representative/Agent Signature**

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

**5. Transporter: ~~IMI, West States Energy Contractors~~ or unknown trucking company on OCD approved haulers list.**

OCD Permitted Surface Waste Management Facility Ritchey, Del Prado, Paul & Son, Inland, Prado Farms, Richl,

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: Kendra Runnung  
SIGNATURE: Kendra Runnung  
Surface Waste Management Facility Authorized Agent

TITLE: Waste Coordinator  
TELEPHONE NO.: 505-632-0615

DATE: 9/2/14

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

State of New Mexico  
Energy Minerals and Natural Resources 97057-0652  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-138  
Revised 08/01/11

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

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:  
Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site: Trunk K Pipeline  
October 2014

3. Location of Material (Street Address, City, State or ULSTR):  
Unit Letter B & K Sec 26 T 27 N R 8W, GPS: Site 1: 36.54473, -107.64408, Site 2: 36.54540, -107.64504, Site 3: 36.54730, -107.64737, Site 4: 36.54958, -107.65009, and 36.53830, -107.63703 San Juan County, NM

4. Source and Description of Waste:  
Source: Natural Gas Pipeline Release  
Description: Exempt petroleum affected soil from clean-up efforts at pipeline release.  
Estimated Volume 200 yd<sup>3</sup> bbls Known Volume (to be entered by the operator at the end of the haul) 2384 yd<sup>3</sup> bbls

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

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

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

- MSDS Information  RCRA Hazardous Waste Analysis  Process Knowledge  Other (Provide description in Box 4)

#### GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long, 10-6-14, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete  
**Generator Signature**  
the required testing/sign the Generator Waste Testing Certification.

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

5. Transporter: ~~MM, West States Energy~~ Contractors or unknown trucking company on OCD approved haulers list. Ritchey, EMS, Envirotech, Prado Farms, Paul & Sons, Inland

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: Kendra Runnung  
SIGNATURE: Kendra Runnung  
Surface Waste Management Facility Authorized Agent

TITLE: Waste Coordinator DATE: 10/1/14  
TELEPHONE NO.: 505-632-0615

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

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

Form C-138  
Revised 08/01/11  
97057-0652  
\*Surface Waste Management Facility Operator  
and Generator shall maintain and make this  
documentation available for Division inspection.

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401	Nov. 2014
2. Originating Site: Trunk K Pipeline #7 Release Site	
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter G Section 26 Township 27 North Range 8 West, 36.54687,-107.646825, San Juan County	
4. Source and Description of Waste: Source: Natural Gas Pipeline Release Description: Exempt petroleum affected soil from clean-up efforts at pipeline release. Estimated Volume <u>100</u> yd <sup>3</sup> Known Volume (to be entered by the operator at the end of the haul) <u>215</u> yd <sup>3</sup> /bbls	
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS  I, <u>Thomas Long</u> , representative or authorized agent for <u>Enterprise Field Services, LLC</u> do hereby <b>Generator Signature</b> certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) <input checked="" type="checkbox"/> RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. <u>Operator Use Only: Waste Acceptance Frequency</u> <input type="checkbox"/> Monthly <input type="checkbox"/> Weekly <input checked="" type="checkbox"/> Per Load <input type="checkbox"/> RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items) <input type="checkbox"/> MSDS Information <input type="checkbox"/> RCRA Hazardous Waste Analysis <input checked="" type="checkbox"/> Process Knowledge <input type="checkbox"/> Other (Provide description in Box 4)	
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS  I, <u>Thomas Long</u> , representative for <u>Enterprise Field Services, LLC</u> authorize Envirotech, Inc. to complete <b>Generator Signature</b> the required testing/sign the Generator Waste Testing Certification. I, <u>Kendra Runung</u> , representative for <u>Envirotech, Inc</u> do hereby certify that <b>Representative/Agent Signature</b> representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.	
5. Transporter: <u>AMS, B+B, Esparea, Envirotech, 3-D services</u>	

#### OCB 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: Kendra Runung  
SIGNATURE: Kendra Runung  
Surface Waste Management Facility Authorized Agent

TITLE: Waste Coordinator DATE: 11/5/14  
TELEPHONE NO.: 505-632-0615

**Appendix C**  
**Laboratory Analytical Reports**



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

September 04, 2014

Steve Moskal  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX (505) 327-1496

RE: Trunk K #1

OrderNo.: 1409047

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 8 sample(s) on 9/3/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

Analytical Report

Lab Order 1409047

Date Reported: 9/4/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-3 NE Wall @ 0-7'

**Project:** Trunk K #1

**Collection Date:** 9/2/2014 2:35:00 PM

**Lab ID:** 1409047-001

**Matrix:** MEOH (SOIL)

**Received Date:** 9/3/2014 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/3/2014 11:28:34 AM	15081
Surr: DNOP	88.3	57.9-140		%REC	1	9/3/2014 11:28:34 AM	15081
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.8		mg/Kg	1	9/3/2014 10:24:00 AM	R20966
Surr: BFB	96.1	80-120		%REC	1	9/3/2014 10:24:00 AM	R20966
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.028		mg/Kg	1	9/3/2014 10:24:00 AM	R20966
Toluene	ND	0.028		mg/Kg	1	9/3/2014 10:24:00 AM	R20966
Ethylbenzene	ND	0.028		mg/Kg	1	9/3/2014 10:24:00 AM	R20966
Xylenes, Total	ND	0.056		mg/Kg	1	9/3/2014 10:24:00 AM	R20966
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	9/3/2014 10:24:00 AM	R20966

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 1 of 12
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates  
**Project:** Trunk K #1  
**Lab ID:** 1409047-002

**Client Sample ID:** SC-4 E. Wall @ 0-7'  
**Collection Date:** 9/2/2014 2:37:00 PM  
**Received Date:** 9/3/2014 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/3/2014 12:32:25 PM	15081
Surr: DNOP	88.4	57.9-140		%REC	1	9/3/2014 12:32:25 PM	15081
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	9/3/2014 10:52:41 AM	R20966
Surr: BFB	95.0	80-120		%REC	1	9/3/2014 10:52:41 AM	R20966
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.039		mg/Kg	1	9/3/2014 10:52:41 AM	R20966
Toluene	ND	0.039		mg/Kg	1	9/3/2014 10:52:41 AM	R20966
Ethylbenzene	ND	0.039		mg/Kg	1	9/3/2014 10:52:41 AM	R20966
Xylenes, Total	ND	0.078		mg/Kg	1	9/3/2014 10:52:41 AM	R20966
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	9/3/2014 10:52:41 AM	R20966

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 2 of 12
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates  
 Project: Trunk K #1  
 Lab ID: 1409047-003

Client Sample ID: SC-5 SE Wall @ 0-7'  
 Collection Date: 9/2/2014 2:38:00 PM  
 Received Date: 9/3/2014 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/3/2014 12:53:53 PM	15081
Surr: DNOP	84.8	57.9-140		%REC	1	9/3/2014 12:53:53 PM	15081
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	9/3/2014 11:21:18 AM	R20966
Surr: BFB	94.8	80-120		%REC	1	9/3/2014 11:21:18 AM	R20966
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.040		mg/Kg	1	9/3/2014 11:21:18 AM	R20966
Toluene	ND	0.040		mg/Kg	1	9/3/2014 11:21:18 AM	R20966
Ethylbenzene	ND	0.040		mg/Kg	1	9/3/2014 11:21:18 AM	R20966
Xylenes, Total	ND	0.080		mg/Kg	1	9/3/2014 11:21:18 AM	R20966
Surr: 4-Bromofluorobenzene	104	80-120		%REC	1	9/3/2014 11:21:18 AM	R20966

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 3 of 12
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-9 E. Base @ 7'

Project: Trunk K #1

Collection Date: 9/2/2014 2:40:00 PM

Lab ID: 1409047-004

Matrix: MEOH (SOIL)

Received Date: 9/3/2014 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/3/2014 1:15:12 PM	15081
Surr: DNOP	91.9	57.9-140		%REC	1	9/3/2014 1:15:12 PM	15081
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	9/3/2014 11:49:57 AM	R20966
Surr: BFB	95.4	80-120		%REC	1	9/3/2014 11:49:57 AM	R20966
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.030		mg/Kg	1	9/3/2014 11:49:57 AM	R20966
Toluene	ND	0.030		mg/Kg	1	9/3/2014 11:49:57 AM	R20966
Ethylbenzene	ND	0.030		mg/Kg	1	9/3/2014 11:49:57 AM	R20966
Xylenes, Total	ND	0.060		mg/Kg	1	9/3/2014 11:49:57 AM	R20966
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	9/3/2014 11:49:57 AM	R20966

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

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E	Value above quantitation range	H Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-6 S. Central Wall @ 0-7'

Project: Trunk K #1

Collection Date: 9/2/2014 2:42:00 PM

Lab ID: 1409047-005

Matrix: MEOH (SOIL)

Received Date: 9/3/2014 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/3/2014 1:36:40 PM	15081
Surr: DNOP	90.7	57.9-140		%REC	1	9/3/2014 1:36:40 PM	15081
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	9/3/2014 12:18:33 PM	R20966
Surr: BFB	97.5	80-120		%REC	1	9/3/2014 12:18:33 PM	R20966
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	9/3/2014 12:18:33 PM	R20966
Toluene	ND	0.032		mg/Kg	1	9/3/2014 12:18:33 PM	R20966
Ethylbenzene	ND	0.032		mg/Kg	1	9/3/2014 12:18:33 PM	R20966
Xylenes, Total	ND	0.064		mg/Kg	1	9/3/2014 12:18:33 PM	R20966
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	9/3/2014 12:18:33 PM	R20966

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Analytical Report**

Lab Order 1409047

Date Reported: 9/4/2014

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-7 SW Wall @ 0-7'

Project: Trunk K #1

Collection Date: 9/2/2014 2:46:00 PM

Lab ID: 1409047-006

Matrix: MEOH (SOIL)

Received Date: 9/3/2014 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	12	9.9		mg/Kg	1	9/3/2014 11:28:42 AM	15081
Surr: DNOP	85.8	57.9-140		%REC	1	9/3/2014 11:28:42 AM	15081
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	18	3.2		mg/Kg	1	9/3/2014 12:47:18 PM	R20966
Surr: BFB	152	80-120	S	%REC	1	9/3/2014 12:47:18 PM	R20966
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	9/3/2014 12:47:18 PM	R20966
Toluene	0.30	0.032		mg/Kg	1	9/3/2014 12:47:18 PM	R20966
Ethylbenzene	0.16	0.032		mg/Kg	1	9/3/2014 12:47:18 PM	R20966
Xylenes, Total	1.8	0.063		mg/Kg	1	9/3/2014 12:47:18 PM	R20966
Surr: 4-Bromofluorobenzene	117	80-120		%REC	1	9/3/2014 12:47:18 PM	R20966

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-8 W. Wall @ 0-7'

Project: Trunk K #1

Collection Date: 9/2/2014 2:49:00 PM

Lab ID: 1409047-007

Matrix: MEOH (SOIL)

Received Date: 9/3/2014 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	110	9.9		mg/Kg	1	9/3/2014 11:58:39 AM	15081
Surr: DNOP	84.5	57.9-140		%REC	1	9/3/2014 11:58:39 AM	15081
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	9/3/2014 1:44:42 PM	R20966
Surr: BFB	102	80-120		%REC	1	9/3/2014 1:44:42 PM	R20966
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.033		mg/Kg	1	9/3/2014 1:44:42 PM	R20966
Toluene	0.073	0.033		mg/Kg	1	9/3/2014 1:44:42 PM	R20966
Ethylbenzene	ND	0.033		mg/Kg	1	9/3/2014 1:44:42 PM	R20966
Xylenes, Total	0.31	0.066		mg/Kg	1	9/3/2014 1:44:42 PM	R20966
Surr: 4-Bromofluorobenzene	109	80-120		%REC	1	9/3/2014 1:44:42 PM	R20966

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-14 N. Central Base @ 23'

**Project:** Trunk K #1

**Collection Date:** 9/2/2014 2:02:00 PM

**Lab ID:** 1409047-008

**Matrix:** MEOH (SOIL)

**Received Date:** 9/3/2014 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	11	10		mg/Kg	1	9/3/2014 12:30:13 PM	15081
Surr: DNOP	100	57.9-140		%REC	1	9/3/2014 12:30:13 PM	15081
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	9/3/2014 2:13:18 PM	R20966
Surr: BFB	102	80-120		%REC	1	9/3/2014 2:13:18 PM	R20966
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.044		mg/Kg	1	9/3/2014 2:13:18 PM	R20966
Toluene	ND	0.044		mg/Kg	1	9/3/2014 2:13:18 PM	R20966
Ethylbenzene	ND	0.044		mg/Kg	1	9/3/2014 2:13:18 PM	R20966
Xylenes, Total	ND	0.088		mg/Kg	1	9/3/2014 2:13:18 PM	R20966
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	9/3/2014 2:13:18 PM	R20966

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 8 of 12
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1409047

04-Sep-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #1

Sample ID	1409047-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	SC-3 NE Wall @ 0-7'	Batch ID:	15081	RunNo:	20948					
Prep Date:	9/3/2014	Analysis Date:	9/3/2014	SeqNo:	610139	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.9	49.60	0	86.3	40.1	152			
Surr: DNOP	4.3		4.960		87.5	57.9	140			

Sample ID	1409047-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	SC-3 NE Wall @ 0-7'	Batch ID:	15081	RunNo:	20948					
Prep Date:	9/3/2014	Analysis Date:	9/3/2014	SeqNo:	610140	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.51	0	88.2	40.1	152	4.01	32.1	
Surr: DNOP	4.4		5.051		86.8	57.9	140	0	0	

Sample ID	MB-15081	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	15081	RunNo:	20948					
Prep Date:	9/3/2014	Analysis Date:	9/3/2014	SeqNo:	610141	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	8.6		10.00		86.0	57.9	140			

Sample ID	LCS-15081	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	15081	RunNo:	20948					
Prep Date:	9/3/2014	Analysis Date:	9/3/2014	SeqNo:	610142	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.8	68.6	130			
Surr: DNOP	3.8		5.000		76.2	57.9	140			

Sample ID	MB-15053	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	15053	RunNo:	20950					
Prep Date:	9/2/2014	Analysis Date:	9/3/2014	SeqNo:	610293	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.2		10.00		71.9	57.9	140			

Sample ID	LCS-15053	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	15053	RunNo:	20950					
Prep Date:	9/2/2014	Analysis Date:	9/3/2014	SeqNo:	610294	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.9		5.000		78.6	57.9	140			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1409047

04-Sep-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #1

Sample ID	MB-15080	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	15080	RunNo:	20948					
Prep Date:	9/3/2014	Analysis Date:	9/3/2014	SeqNo:	610470	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.1		10.00		81.2	57.9	140			

Sample ID	LCS-15080	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	15080	RunNo:	20948					
Prep Date:	9/3/2014	Analysis Date:	9/3/2014	SeqNo:	610471	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		86.9	57.9	140			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1409047

04-Sep-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #1

Sample ID <b>MB-15063 MK</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>R20966</b>	RunNo: <b>20966</b>								
Prep Date:	Analysis Date: <b>9/3/2014</b>	SeqNo: <b>610346</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		94.1	80	120			

Sample ID <b>LCS-15063 MK</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>R20966</b>	RunNo: <b>20966</b>								
Prep Date:	Analysis Date: <b>9/3/2014</b>	SeqNo: <b>610347</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	29	5.0	25.00	0	115	65.8	139			
Surr: BFB	1000		1000		105	80	120			

Sample ID <b>MB-15063</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>15063</b>	RunNo: <b>20966</b>								
Prep Date: <b>9/2/2014</b>	Analysis Date: <b>9/3/2014</b>	SeqNo: <b>610364</b>	Units: <b>%REC</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Surr: BFB	940		1000		94.1	80	120			
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Sample ID <b>LCS-15063</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>15063</b>	RunNo: <b>20966</b>								
Prep Date: <b>9/2/2014</b>	Analysis Date: <b>9/3/2014</b>	SeqNo: <b>610365</b>	Units: <b>%REC</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Surr: BFB	1000		1000		105	80	120			
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**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1409047

04-Sep-14

**Client:** Souder, Miller and Associates  
**Project:** Trunk K #1

Sample ID	<b>MB-15063 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R20966</b>	RunNo:	<b>20966</b>					
Prep Date:		Analysis Date:	<b>9/3/2014</b>	SeqNo:	<b>610383</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID	<b>LCS-15063 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R20966</b>	RunNo:	<b>20966</b>					
Prep Date:		Analysis Date:	<b>9/3/2014</b>	SeqNo:	<b>610384</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Benzene	0.97	0.050	1.000	0	97.2	80	120			
Toluene	0.97	0.050	1.000	0	96.9	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

Sample ID	<b>MB-15063</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>15063</b>	RunNo:	<b>20966</b>					
Prep Date:	<b>9/2/2014</b>	Analysis Date:	<b>9/3/2014</b>	SeqNo:	<b>610405</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			
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Sample ID	<b>LCS-15063</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>15063</b>	RunNo:	<b>20966</b>					
Prep Date:	<b>9/2/2014</b>	Analysis Date:	<b>9/3/2014</b>	SeqNo:	<b>610406</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			
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**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1409047

RcptNo: 1

Received by/date: [Signature] 09/03/14

Logged By: **Lindsay Mangin** 9/3/2014 8:05:00 AM [Signature]

Completed By: **Lindsay Mangin** 9/3/2014 8:15:13 AM [Signature]

Reviewed By: ms 09/03/14

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes  No
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? (If no, notify customer for authorization.) Yes  No

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

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

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

17. Additional remarks:

**18. Cooler Information**

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

# Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W. Broadway  
Farmington, NM 87401

Phone #: 505 325 9535

email or Fax#: sever.mostal@sandmill.com

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

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

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

Turn-Around Time:  
 Standard       SAME Day  
 Rush

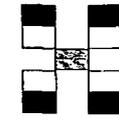
Project Name: Trunk K #1

Project #: 5122855

Project Manager: Gene Mostal

Sampler: Sm  
 On Ice       Yes       No

Sample Temperature: 7.1Y



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No	BTEX + MTBE + TMB'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 <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
2/14	1435	Soil	SC-3 NE wall @ 0-7'	402 X 1	Cooled	-001	↓	↓	↓									
	1437		SC-4 E wall @ 0-7'	402 X 1	Cooled	-002												
	1438		SC-5 SE wall @ 0-7'			-003												
	1440		SC-9 E Box @ 7'			-004												
	1442		SC-6 S. central wall @ 0-7'			-005												
	1446		SC-7 SW wall @ 0-7'			-006												
	1449		SC-8 W. wall @ 0-7'			-007												
	1402		SC-14 N central Base @ 23'			-008												

Date: <u>2/14</u>	Time: <u>1700</u>	Relinquished by: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Date: <u>9/2/14</u>	Time: <u>1710</u>
Date: <u>7/2/14</u>	Time: <u>1745</u>	Relinquished by: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Date: <u>09/03/14</u>	Time: <u>0805</u>

Remarks: Invoice to Enterprise Products

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



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

September 08, 2014

Steve Moskal  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX

RE: Trunk K #1

OrderNo.: 1409230

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 4 sample(s) on 9/5/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

Analytical Report

Lab Order 1409230

Date Reported: 9/8/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-18 N Wall, West Corner@10

Project: Trunk K #1

Collection Date: 9/3/2014 11:45:00 AM

Lab ID: 1409230-001

Matrix: MEOH (SOIL)

Received Date: 9/5/2014 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/5/2014 11:49:39 AM	15134
Surr: DNOP	86.4	57.9-140		%REC	1	9/5/2014 11:49:39 AM	15134
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	9/5/2014 10:51:47 AM	R21019
Surr: BFB	91.8	80-120		%REC	1	9/5/2014 10:51:47 AM	R21019
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.045		mg/Kg	1	9/5/2014 10:51:47 AM	R21019
Toluene	ND	0.045		mg/Kg	1	9/5/2014 10:51:47 AM	R21019
Ethylbenzene	ND	0.045		mg/Kg	1	9/5/2014 10:51:47 AM	R21019
Xylenes, Total	ND	0.091		mg/Kg	1	9/5/2014 10:51:47 AM	R21019
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	9/5/2014 10:51:47 AM	R21019

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 1 of 7
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Analytical Report**

Lab Order 1409230

Date Reported: 9/8/2014

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller and Associates**Client Sample ID:** SC-27 SW Wall @ 0-24'**Project:** Trunk K #1**Collection Date:** 9/4/2014 2:37:00 PM**Lab ID:** 1409230-002**Matrix:** MEOH (SOIL)**Received Date:** 9/5/2014 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/5/2014 12:11:10 PM	15134
Surr: DNOP	91.5	57.9-140		%REC	1	9/5/2014 12:11:10 PM	15134
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/5/2014 11:21:54 AM	R21019
Surr: BFB	88.4	80-120		%REC	1	9/5/2014 11:21:54 AM	R21019
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.047		mg/Kg	1	9/5/2014 11:21:54 AM	R21019
Toluene	ND	0.047		mg/Kg	1	9/5/2014 11:21:54 AM	R21019
Ethylbenzene	ND	0.047		mg/Kg	1	9/5/2014 11:21:54 AM	R21019
Xylenes, Total	ND	0.093		mg/Kg	1	9/5/2014 11:21:54 AM	R21019
Surr: 4-Bromofluorobenzene	98.4	80-120		%REC	1	9/5/2014 11:21:54 AM	R21019

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Analytical Report**

Lab Order 1409230

Date Reported: 9/8/2014

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller and Associates**Client Sample ID:** SC-11 N Central Base @9'**Project:** Trunk K #1**Collection Date:** 9/4/2014 3:12:00 PM**Lab ID:** 1409230-003**Matrix:** MEOH (SOIL)**Received Date:** 9/5/2014 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/5/2014 12:32:38 PM	15134
Surr: DNOP	81.9	57.9-140		%REC	1	9/5/2014 12:32:38 PM	15134
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	9/5/2014 11:52:06 AM	R21019
Surr: BFB	105	80-120		%REC	1	9/5/2014 11:52:06 AM	R21019
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.043		mg/Kg	1	9/5/2014 11:52:06 AM	R21019
Toluene	ND	0.043		mg/Kg	1	9/5/2014 11:52:06 AM	R21019
Ethylbenzene	ND	0.043		mg/Kg	1	9/5/2014 11:52:06 AM	R21019
Xylenes, Total	0.18	0.087		mg/Kg	1	9/5/2014 11:52:06 AM	R21019
Surr: 4-Bromofluorobenzene	118	80-120		%REC	1	9/5/2014 11:52:06 AM	R21019

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Analytical Report

Lab Order 1409230

Date Reported: 9/8/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-8 W Wall @ 7-24'

Project: Trunk K #1

Collection Date: 9/4/2014 3:20:00 PM

Lab ID: 1409230-004

Matrix: MEOH (SOIL)

Received Date: 9/5/2014 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/5/2014 12:53:54 PM	15134
Surr: DNOP	86.0	57.9-140		%REC	1	9/5/2014 12:53:54 PM	15134
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	5.6	3.7		mg/Kg	1	9/5/2014 12:22:12 PM	R21019
Surr: BFB	103	80-120		%REC	1	9/5/2014 12:22:12 PM	R21019
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.037		mg/Kg	1	9/5/2014 12:22:12 PM	R21019
Toluene	0.045	0.037		mg/Kg	1	9/5/2014 12:22:12 PM	R21019
Ethylbenzene	ND	0.037		mg/Kg	1	9/5/2014 12:22:12 PM	R21019
Xylenes, Total	0.34	0.073		mg/Kg	1	9/5/2014 12:22:12 PM	R21019
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	9/5/2014 12:22:12 PM	R21019

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1409230

08-Sep-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #1

Sample ID	<b>MB-15134</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>15134</b>	RunNo:	<b>21011</b>					
Prep Date:	<b>9/5/2014</b>	Analysis Date:	<b>9/5/2014</b>	SeqNo:	<b>611900</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	8.2		10.00		81.6	57.9	140			

Sample ID	<b>LCS-15134</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>15134</b>	RunNo:	<b>21011</b>					
Prep Date:	<b>9/5/2014</b>	Analysis Date:	<b>9/5/2014</b>	SeqNo:	<b>611901</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.3	68.6	130			
Surr: DNOP	3.9		5.000		79.0	57.9	140			

Sample ID	<b>MB-15139</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>15139</b>	RunNo:	<b>21040</b>					
Prep Date:	<b>9/5/2014</b>	Analysis Date:	<b>9/6/2014</b>	SeqNo:	<b>612324</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.1		10.00		81.1	57.9	140			

Sample ID	<b>LCS-15139</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>15139</b>	RunNo:	<b>21040</b>					
Prep Date:	<b>9/5/2014</b>	Analysis Date:	<b>9/6/2014</b>	SeqNo:	<b>612325</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.1		5.000		81.1	57.9	140			

Sample ID	<b>MB-15157</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>15157</b>	RunNo:	<b>21040</b>					
Prep Date:	<b>9/6/2014</b>	Analysis Date:	<b>9/6/2014</b>	SeqNo:	<b>612637</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.8		10.00		88.3	57.9	140			

Sample ID	<b>LCS-15157</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>15157</b>	RunNo:	<b>21040</b>					
Prep Date:	<b>9/6/2014</b>	Analysis Date:	<b>9/6/2014</b>	SeqNo:	<b>612639</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.1		5.000		81.7	57.9	140			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409230

08-Sep-14

Client: Souder, Miller and Associates

Project: Trunk K #1

Sample ID	<b>MB-15122 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21019</b>	RunNo:	<b>21019</b>					
Prep Date:		Analysis Date:	<b>9/5/2014</b>	SeqNo:	<b>612337</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	950		1000		94.8	80	120			

Sample ID	<b>LCS-15122 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21019</b>	RunNo:	<b>21019</b>					
Prep Date:		Analysis Date:	<b>9/5/2014</b>	SeqNo:	<b>612338</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.7	65.8	139			
Surr: BFB	1000		1000		102	80	120			

Sample ID	<b>MB-15122</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>15122</b>	RunNo:	<b>21019</b>					
Prep Date:	<b>9/4/2014</b>	Analysis Date:	<b>9/5/2014</b>	SeqNo:	<b>612342</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	950		1000		94.8	80	120			

Sample ID	<b>LCS-15122</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>15122</b>	RunNo:	<b>21019</b>					
Prep Date:	<b>9/4/2014</b>	Analysis Date:	<b>9/5/2014</b>	SeqNo:	<b>612343</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		102	80	120			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1409230

08-Sep-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #1

Sample ID	<b>MB-15122 MK</b>		SampType:	<b>MBLK</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>				
Client ID:	<b>PBS</b>		Batch ID:	<b>R21019</b>		RunNo:	<b>21019</b>				
Prep Date:			Analysis Date:	<b>9/5/2014</b>		SeqNo:	<b>612373</b>		Units: <b>mg/Kg</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	0.050									
Toluene	ND	0.050									
Ethylbenzene	ND	0.050									
Xylenes, Total	ND	0.10									
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120				

Sample ID	<b>LCS-15122 MK</b>		SampType:	<b>LCS</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>				
Client ID:	<b>LCSS</b>		Batch ID:	<b>R21019</b>		RunNo:	<b>21019</b>				
Prep Date:			Analysis Date:	<b>9/5/2014</b>		SeqNo:	<b>612374</b>		Units: <b>mg/Kg</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.85	0.050	1.000	0	85.0	80	120				
Toluene	0.86	0.050	1.000	0	85.9	80	120				
Ethylbenzene	0.91	0.050	1.000	0	90.5	80	120				
Xylenes, Total	2.8	0.10	3.000	0	94.8	80	120				
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120				

Sample ID	<b>MB-15122</b>		SampType:	<b>MBLK</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>				
Client ID:	<b>PBS</b>		Batch ID:	<b>15122</b>		RunNo:	<b>21019</b>				
Prep Date:	<b>9/4/2014</b>		Analysis Date:	<b>9/5/2014</b>		SeqNo:	<b>612375</b>		Units: <b>%REC</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120				

Sample ID	<b>LCS-15122</b>		SampType:	<b>LCS</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>				
Client ID:	<b>LCSS</b>		Batch ID:	<b>15122</b>		RunNo:	<b>21019</b>				
Prep Date:	<b>9/4/2014</b>		Analysis Date:	<b>9/5/2014</b>		SeqNo:	<b>612376</b>		Units: <b>%REC</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120				

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1409230

RcptNo: 1

Received by/date: [Signature] 09/05/14

Logged By: Lindsay Mangin 9/5/2014 7:30:00 AM [Signature]

Completed By: Lindsay Mangin 9/5/2014 7:43:00 AM [Signature]

Reviewed By: AK 09/05/14

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

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

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

17. Additional remarks:

**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

# Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W Broadway  
Farmington, NM 87401

Phone #: 505 325-7535

email or Fax#: steven.muskal@soledemill.com

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

Accreditation  
 NELAP     Other \_\_\_\_\_  
 EDD (Type) \_\_\_\_\_

Turn-Around Time:  
 Standard     Rush Same Day

Project Name: TRUCK K #1

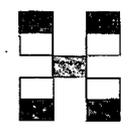
Project #: 5122855 BG 46-1

Project Manager: Steve Muskal

Sampler: Randy Watson / Steve Muskal

On Ice:  Yes     No

Sample Temperature: 1.3



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com  
 4901 Hawkins NE - Albuquerque, NM 87109  
 Tel. 505-345-3975    Fax 505-345-4107

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TPH (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)	
3/14	1145	soil	SC-18 small water @ 10-25'	4oz x 2	cooled	1409230	✓		X										
4/14	1437		SC-27 small @ 0-24'			-002													
	1512		SC-11 central base @ 9'			-003													
	1520		SC-8 well @ 1-24'			-004													

Date: <u>4/1/13</u>	Time: <u>1715</u>	Relinquished by: <u>[Signature]</u>	Received by: <u>Christa Waels</u>	Date: <u>9/4/14</u>	Time: <u>1830</u>
Date: <u>4/4/13</u>	Time: <u>1900</u>	Relinquished by: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Date: <u>09/05/14</u>	Time: <u>0730</u>

Remarks: Invoice to Enterprise Products

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



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

October 07, 2014

Steve Moskal

Souder, Miller and Associates

401 W. Broadway

Farmington, NM 87401

TEL: (505) 325-5667

FAX

RE: Trunk K #2

OrderNo.: 1410216

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 11 sample(s) on 10/4/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 1410216

Date Reported: 10/7/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-33 s. Base @ 18'

Project: Trunk K #2

Collection Date: 10/3/2014 11:10:00 AM

Lab ID: 1410216-001

Matrix: MEOH (SOIL)

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/6/2014 9:51:10 AM	15713
Surr: DNOP	81.6	57.9-140		%REC	1	10/6/2014 9:51:10 AM	15713
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	8.8	3.7		mg/Kg	1	10/6/2014 10:42:50 AM	R21690
Surr: BFB	154	80-120	S	%REC	1	10/6/2014 10:42:50 AM	R21690
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.037		mg/Kg	1	10/6/2014 10:42:50 AM	R21690
Toluene	ND	0.037		mg/Kg	1	10/6/2014 10:42:50 AM	R21690
Ethylbenzene	ND	0.037		mg/Kg	1	10/6/2014 10:42:50 AM	R21690
Xylenes, Total	0.14	0.075		mg/Kg	1	10/6/2014 10:42:50 AM	R21690
Surr: 4-Bromofluorobenzene	104	80-120		%REC	1	10/6/2014 10:42:50 AM	R21690

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 1 of 14
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Analytical Report**

Lab Order 1410216

Date Reported: 10/7/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-29 S. Central Wall @0-18'

**Project:** Trunk K #2

**Collection Date:** 10/3/2014 11:12:00 AM

**Lab ID:** 1410216-002

**Matrix:** MEOH (SOIL)

**Received Date:** 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/6/2014 10:12:35 AM	15713
Surr: DNOP	73.1	57.9-140		%REC	1	10/6/2014 10:12:35 AM	15713
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2014 11:11:25 AM	R21690
Surr: BFB	99.2	80-120		%REC	1	10/6/2014 11:11:25 AM	R21690
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	10/6/2014 11:11:25 AM	R21690
Toluene	ND	0.050		mg/Kg	1	10/6/2014 11:11:25 AM	R21690
Ethylbenzene	ND	0.050		mg/Kg	1	10/6/2014 11:11:25 AM	R21690
Xylenes, Total	0.26	0.099		mg/Kg	1	10/6/2014 11:11:25 AM	R21690
Surr: 4-Bromofluorobenzene	99.1	80-120		%REC	1	10/6/2014 11:11:25 AM	R21690

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 2 of 14
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Analytical Report**

Lab Order 1410216

Date Reported: 10/7/2014

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller and Associates**Client Sample ID:** SC-31 E Wall S. Pl @ 0-18'**Project:** Trunk K #2**Collection Date:** 10/3/2014 11:20:00 AM**Lab ID:** 1410216-003**Matrix:** MEOH (SOIL)**Received Date:** 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/6/2014 10:33:50 AM	15713
Surr: DNOP	78.7	57.9-140		%REC	1	10/6/2014 10:33:50 AM	15713
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	10/6/2014 11:39:57 AM	R21690
Surr: BFB	99.1	80-120		%REC	1	10/6/2014 11:39:57 AM	R21690
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.045		mg/Kg	1	10/6/2014 11:39:57 AM	R21690
Toluene	ND	0.045		mg/Kg	1	10/6/2014 11:39:57 AM	R21690
Ethylbenzene	ND	0.045		mg/Kg	1	10/6/2014 11:39:57 AM	R21690
Xylenes, Total	0.40	0.091		mg/Kg	1	10/6/2014 11:39:57 AM	R21690
Surr: 4-Bromofluorobenzene	99.1	80-120		%REC	1	10/6/2014 11:39:57 AM	R21690

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Analytical Report

Lab Order 1410216

Date Reported: 10/7/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-34 NE Base @ 18'

Project: Trunk K #2

Collection Date: 10/3/2014 11:20:00 AM

Lab ID: 1410216-004

Matrix: MEOH (SOIL)

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/6/2014 10:55:09 AM	15713
Surr: DNOP	83.1	57.9-140		%REC	1	10/6/2014 10:55:09 AM	15713
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	10/6/2014 12:08:30 PM	R21690
Surr: BFB	92.7	80-120		%REC	1	10/6/2014 12:08:30 PM	R21690
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.039		mg/Kg	1	10/6/2014 12:08:30 PM	R21690
Toluene	ND	0.039		mg/Kg	1	10/6/2014 12:08:30 PM	R21690
Ethylbenzene	ND	0.039		mg/Kg	1	10/6/2014 12:08:30 PM	R21690
Xylenes, Total	ND	0.077		mg/Kg	1	10/6/2014 12:08:30 PM	R21690
Surr: 4-Bromofluorobenzene	97.5	80-120		%REC	1	10/6/2014 12:08:30 PM	R21690

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 4 of 14
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Analytical Report**

Lab Order 1410216

Date Reported: 10/7/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-26 NE Wall @ 0-18'

**Project:** Trunk K #2

**Collection Date:** 10/3/2014 11:22:00 AM

**Lab ID:** 1410216-005

**Matrix:** MEOH (SOIL)

**Received Date:** 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/6/2014 11:16:29 AM	15713
Surr: DNOP	117	57.9-140		%REC	1	10/6/2014 11:16:29 AM	15713
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.5		mg/Kg	1	10/6/2014 12:37:14 PM	R21690
Surr: BFB	97.4	80-120		%REC	1	10/6/2014 12:37:14 PM	R21690
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.055		mg/Kg	1	10/6/2014 12:37:14 PM	R21690
Toluene	ND	0.055		mg/Kg	1	10/6/2014 12:37:14 PM	R21690
Ethylbenzene	ND	0.055		mg/Kg	1	10/6/2014 12:37:14 PM	R21690
Xylenes, Total	0.29	0.11		mg/Kg	1	10/6/2014 12:37:14 PM	R21690
Surr: 4-Bromofluorobenzene	98.7	80-120		%REC	1	10/6/2014 12:37:14 PM	R21690

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 5 of 14
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Analytical Report**Lab Order **1410216**Date Reported: **10/7/2014****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller and Associates**Client Sample ID:** SC-28 E Wall N PL @ 0-18'**Project:** Trunk K #2**Collection Date:** 10/3/2014 11:24:00 AM**Lab ID:** 1410216-006**Matrix:** MEOH (SOIL)**Received Date:** 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/6/2014 11:37:54 AM	15713
Surr: DNOP	84.9	57.9-140		%REC	1	10/6/2014 11:37:54 AM	15713
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2014 1:05:51 PM	R21690
Surr: BFB	97.5	80-120		%REC	1	10/6/2014 1:05:51 PM	R21690
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	10/6/2014 1:05:51 PM	R21690
Toluene	ND	0.050		mg/Kg	1	10/6/2014 1:05:51 PM	R21690
Ethylbenzene	ND	0.050		mg/Kg	1	10/6/2014 1:05:51 PM	R21690
Xylenes, Total	0.37	0.10		mg/Kg	1	10/6/2014 1:05:51 PM	R21690
Surr: 4-Bromofluorobenzene	100	80-120		%REC	1	10/6/2014 1:05:51 PM	R21690

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Analytical Report**

Lab Order 1410216

Date Reported: 10/7/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-13 N Central Base @ 18'

**Project:** Trunk K #2

**Collection Date:** 10/3/2014 11:30:00 AM

**Lab ID:** 1410216-007

**Matrix:** MEOH (SOIL)

**Received Date:** 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/6/2014 11:59:12 AM	15713
Surr: DNOP	83.4	57.9-140		%REC	1	10/6/2014 11:59:12 AM	15713
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	10/6/2014 1:34:33 PM	R21690
Surr: BFB	103	80-120		%REC	1	10/6/2014 1:34:33 PM	R21690
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.036		mg/Kg	1	10/6/2014 1:34:33 PM	R21690
Toluene	ND	0.036		mg/Kg	1	10/6/2014 1:34:33 PM	R21690
Ethylbenzene	ND	0.036		mg/Kg	1	10/6/2014 1:34:33 PM	R21690
Xylenes, Total	0.14	0.072		mg/Kg	1	10/6/2014 1:34:33 PM	R21690
Surr: 4-Bromofluorobenzene	100	80-120		%REC	1	10/6/2014 1:34:33 PM	R21690

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 7 of 14
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Analytical Report

Lab Order 1410216

Date Reported: 10/7/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-12 N Central Wall @ 0-18'

Project: Trunk K #2

Collection Date: 10/3/2014 11:32:00 AM

Lab ID: 1410216-008

Matrix: MEOH (SOIL)

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/6/2014 12:20:38 PM	15713
Surr: DNOP	92.3	57.9-140		%REC	1	10/6/2014 12:20:38 PM	15713
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2014 2:03:11 PM	R21690
Surr: BFB	98.1	80-120		%REC	1	10/6/2014 2:03:11 PM	R21690
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	10/6/2014 2:03:11 PM	R21690
Toluene	ND	0.050		mg/Kg	1	10/6/2014 2:03:11 PM	R21690
Ethylbenzene	ND	0.050		mg/Kg	1	10/6/2014 2:03:11 PM	R21690
Xylenes, Total	0.22	0.099		mg/Kg	1	10/6/2014 2:03:11 PM	R21690
Surr: 4-Bromofluorobenzene	99.6	80-120		%REC	1	10/6/2014 2:03:11 PM	R21690

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

## Analytical Report

Lab Order 1410216

Date Reported: 10/7/2014

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-35 NW Base @ 18'

Project: Trunk K #2

Collection Date: 10/3/2014 11:38:00 AM

Lab ID: 1410216-009

Matrix: MEOH (SOIL)

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/6/2014 12:42:03 PM	15713
Surr: DNOP	85.1	57.9-140		%REC	1	10/6/2014 12:42:03 PM	15713
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.8		mg/Kg	1	10/6/2014 2:31:49 PM	R21690
Surr: BFB	112	80-120		%REC	1	10/6/2014 2:31:49 PM	R21690
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.028		mg/Kg	1	10/6/2014 2:31:49 PM	R21690
Toluene	ND	0.028		mg/Kg	1	10/6/2014 2:31:49 PM	R21690
Ethylbenzene	ND	0.028		mg/Kg	1	10/6/2014 2:31:49 PM	R21690
Xylenes, Total	0.097	0.057		mg/Kg	1	10/6/2014 2:31:49 PM	R21690
Surr: 4-Bromofluorobenzene	99.9	80-120		%REC	1	10/6/2014 2:31:49 PM	R21690

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Analytical Report

Lab Order 1410216

Date Reported: 10/7/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-36 NW Wall @ 0-18'

Project: Trunk K #2

Collection Date: 10/3/2014 11:41:00 AM

Lab ID: 1410216-010

Matrix: MEOH (SOIL)

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/6/2014 10:03:51 AM	15713
Surr: DNOP	88.9	57.9-140		%REC	1	10/6/2014 10:03:51 AM	15713
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2014 1:21:53 PM	R21689
Surr: BFB	93.9	80-120		%REC	1	10/6/2014 1:21:53 PM	R21689
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	10/6/2014 1:21:53 PM	R21689
Toluene	ND	0.050		mg/Kg	1	10/6/2014 1:21:53 PM	R21689
Ethylbenzene	ND	0.050		mg/Kg	1	10/6/2014 1:21:53 PM	R21689
Xylenes, Total	0.29	0.10		mg/Kg	1	10/6/2014 1:21:53 PM	R21689
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	10/6/2014 1:21:53 PM	R21689

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates  
 Project: Trunk K #2  
 Lab ID: 1410216-011

Client Sample ID: SC-32 W Wall N PL @ 0-18'  
 Collection Date: 10/3/2014 11:44:00 AM  
 Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/6/2014 10:33:51 AM	15713
Surr: DNOP	60.5	57.9-140		%REC	1	10/6/2014 10:33:51 AM	15713
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/6/2014 1:52:16 PM	R21689
Surr: BFB	98.9	80-120		%REC	1	10/6/2014 1:52:16 PM	R21689
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	10/6/2014 1:52:16 PM	R21689
Toluene	ND	0.050		mg/Kg	1	10/6/2014 1:52:16 PM	R21689
Ethylbenzene	ND	0.050		mg/Kg	1	10/6/2014 1:52:16 PM	R21689
Xylenes, Total	0.48	0.10		mg/Kg	1	10/6/2014 1:52:16 PM	R21689
Surr: 4-Bromofluorobenzene	111	80-120		%REC	1	10/6/2014 1:52:16 PM	R21689

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 11 of 14
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410216

07-Oct-14

Client: Souder, Miller and Associates

Project: Trunk K #2

Sample ID	MB-15713	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	15713	RunNo:	21668					
Prep Date:	10/4/2014	Analysis Date:	10/6/2014	SeqNo:	635830	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	6.8		10.00		67.5	57.9	140			

Sample ID	MB-15711	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	15711	RunNo:	21668					
Prep Date:	10/4/2014	Analysis Date:	10/6/2014	SeqNo:	636214	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.9		10.00		79.2	57.9	140			

Sample ID	LCS-15711	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	15711	RunNo:	21668					
Prep Date:	10/4/2014	Analysis Date:	10/6/2014	SeqNo:	636215	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.1		5.000		81.1	57.9	140			

Sample ID	LCS-15713	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	15713	RunNo:	21668					
Prep Date:	10/4/2014	Analysis Date:	10/6/2014	SeqNo:	636216	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.6	68.6	130			
Surr: DNOP	3.2		5.000		64.2	57.9	140			

Sample ID	MB-15755	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	15755	RunNo:	21712					
Prep Date:	10/7/2014	Analysis Date:	10/7/2014	SeqNo:	637426	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.5		10.00		75.4	57.9	140			

Sample ID	LCS-15755	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	15755	RunNo:	21712					
Prep Date:	10/7/2014	Analysis Date:	10/7/2014	SeqNo:	637427	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		5.000		84.2	57.9	140			

## Qualifiers:

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

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1410216

07-Oct-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #2

Sample ID	<b>MB-15706 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21690</b>	RunNo:	<b>21690</b>					
Prep Date:		Analysis Date:	<b>10/6/2014</b>	SeqNo:	<b>636818</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	890		1000		89.1	80	120			

Sample ID	<b>LCS-15706 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21690</b>	RunNo:	<b>21690</b>					
Prep Date:		Analysis Date:	<b>10/6/2014</b>	SeqNo:	<b>636819</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	27	5.0	25.00	0	109	65.8	139			
Surr: BFB	1000		1000		101	80	120			

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21689</b>	RunNo:	<b>21689</b>					
Prep Date:		Analysis Date:	<b>10/6/2014</b>	SeqNo:	<b>636886</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	840		1000		83.6	80	120			

Sample ID	<b>2.5UG GRO LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21689</b>	RunNo:	<b>21689</b>					
Prep Date:		Analysis Date:	<b>10/6/2014</b>	SeqNo:	<b>636887</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.2	65.8	139			
Surr: BFB	990		1000		98.8	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1410216

07-Oct-14

**Client:** Souder, Miller and Associates  
**Project:** Trunk K #2

Sample ID	<b>MB-15706 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21690</b>	RunNo:	<b>21690</b>					
Prep Date:		Analysis Date:	<b>10/6/2014</b>	SeqNo:	<b>636855</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		94.7	80	120			

Sample ID	<b>LCS-15706 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21690</b>	RunNo:	<b>21690</b>					
Prep Date:		Analysis Date:	<b>10/6/2014</b>	SeqNo:	<b>636857</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	98.9	80	120			
Toluene	0.99	0.050	1.000	0	99.3	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21689</b>	RunNo:	<b>21689</b>					
Prep Date:		Analysis Date:	<b>10/6/2014</b>	SeqNo:	<b>636911</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.92		1.000		92.1	80	120			

Sample ID	<b>100NG BTEX LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21689</b>	RunNo:	<b>21689</b>					
Prep Date:		Analysis Date:	<b>10/6/2014</b>	SeqNo:	<b>636912</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	105	80	120			
Toluene	1.0	0.050	1.000	0	103	80	120			
Ethylbenzene	1.0	0.050	1.000	0	103	80	120			
Xylenes, Total	3.2	0.10	3.000	0	106	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1410216

RcptNo: 1

Received by/date: [Signature] 10/04/14

Logged By: Lindsay Mangin 10/4/2014 7:00:00 AM [Signature]

Completed By: Lindsay Mangin 10/4/2014 8:43:20 AM [Signature]

Reviewed By: [Signature] 10/06/14

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

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

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

17. Additional remarks:

**18. Cooler Information**

Cooler No.	Temp °C	Condition	Seal Intact	Seal No.	Seal Date	Signed By
1	1.3	Good	Yes			

# Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W. Broadway  
Farmington, NM 87401

Phone #: 505-325-7535  
email or Fax#: steve.muskal@zander-miller.com

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

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

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

Turn-Around Time:  
 Standard  Rush Same Day

Project Name: Trunk K #2

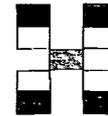
Project #: 5122855 B646-2

Project Manager: Steve Muskal

Sampler: 1 1

On Ice:  Yes  No

Sample Temperature: 1.3



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

### Analysis Request

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
10/3/14	1116	Soil	SC-33 S. Bas @ 18'	402 x 2	carb	-001
	1112		SC-27 S. Central wall @ 18'			-002
	1114		SC-31 E. wall, S. PL @ 18'			-003
	1120		SC-34 NE Bas @ 18'			-004
	1122		SC-26 NE wall @ 18'			-005
	1124		SC-28 E wall, N. PL @ 18'			-006
	1130		SC-13 N. Central Bas @ 18'			-007
	1132		SC-12 N. central wall @ 18'			-008
	1138		SC-35 NW Bas @ 18'			-009
	1141		SC-36 NW wall @ 18'			-010
	1144		SC-32 W wall, N. PL @ 18'			-011

Date: 10/3/14 Time: 11:30 Relinquished by: [Signature]  
Received by: Chet Hart Date: 10/3/14 Time: 11:30

Date: 10/3/14 Time: 17:45 Relinquished by: [Signature]  
Received by: [Signature] Date: 10/04/14 Time: 07:00

Remarks:  
- Invoice to Enterprise Products  
- copy Alicia.patterson@zander-miller.com

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



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

October 17, 2014

Steve Moskal  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX

RE: Trunk K #2

OrderNo.: 1410757

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 4 sample(s) on 10/16/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**

Lab Order 1410757

Date Reported: 10/17/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-37 SW Base @ 18'

**Project:** Trunk K #2

**Collection Date:** 10/15/2014 11:10:00 AM

**Lab ID:** 1410757-001

**Matrix:** SOIL

**Received Date:** 10/16/2014 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/16/2014 9:35:51 AM	15935
Surr: DNOP	102	57.9-140		%REC	1	10/16/2014 9:35:51 AM	15935
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	10/16/2014 11:09:40 AM	R21955
Surr: BFB	88.7	80-120		%REC	1	10/16/2014 11:09:40 AM	R21955
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	10/16/2014 11:09:40 AM	R21955
Toluene	ND	0.034		mg/Kg	1	10/16/2014 11:09:40 AM	R21955
Ethylbenzene	ND	0.034		mg/Kg	1	10/16/2014 11:09:40 AM	R21955
Xylenes, Total	ND	0.068		mg/Kg	1	10/16/2014 11:09:40 AM	R21955
Surr: 4-Bromofluorobenzene	91.0	80-120		%REC	1	10/16/2014 11:09:40 AM	R21955

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates      Client Sample ID: SC-38 W Wall @ 0-18'  
 Project: Trunk K #2      Collection Date: 10/15/2014 11:12:00 AM  
 Lab ID: 1410757-002      Matrix: SOIL      Received Date: 10/16/2014 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/16/2014 10:40:34 AM	15935
Surr: DNOP	85.3	57.9-140		%REC	1	10/16/2014 10:40:34 AM	15935
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	10/16/2014 11:38:11 AM	R21955
Surr: BFB	95.0	80-120		%REC	1	10/16/2014 11:38:11 AM	R21955
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.043		mg/Kg	1	10/16/2014 11:38:11 AM	R21955
Toluene	ND	0.043		mg/Kg	1	10/16/2014 11:38:11 AM	R21955
Ethylbenzene	ND	0.043		mg/Kg	1	10/16/2014 11:38:11 AM	R21955
Xylenes, Total	0.13	0.087		mg/Kg	1	10/16/2014 11:38:11 AM	R21955
Surr: 4-Bromofluorobenzene	95.6	80-120		%REC	1	10/16/2014 11:38:11 AM	R21955

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-39 S Wall W @ 0-18'

Project: Trunk K #2

Collection Date: 10/15/2014 11:14:00 AM

Lab ID: 1410757-003

Matrix: SOIL

Received Date: 10/16/2014 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/16/2014 11:56:22 AM	15935
Surr: DNOP	85.3	57.9-140		%REC	1	10/16/2014 11:56:22 AM	15935
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/16/2014 12:06:42 PM	R21955
Surr: BFB	94.5	80-120		%REC	1	10/16/2014 12:06:42 PM	R21955
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.046		mg/Kg	1	10/16/2014 12:06:42 PM	R21955
Toluene	ND	0.046		mg/Kg	1	10/16/2014 12:06:42 PM	R21955
Ethylbenzene	ND	0.046		mg/Kg	1	10/16/2014 12:06:42 PM	R21955
Xylenes, Total	ND	0.092		mg/Kg	1	10/16/2014 12:06:42 PM	R21955
Surr: 4-Bromofluorobenzene	95.6	80-120		%REC	1	10/16/2014 12:06:42 PM	R21955

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Analytical Report**

Lab Order 1410757

Date Reported: 10/17/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-40 S Wall (E) @ 0-18'

**Project:** Trunk K #2

**Collection Date:** 10/15/2014 11:20:00 AM

**Lab ID:** 1410757-004

**Matrix:** SOIL

**Received Date:** 10/16/2014 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	42	9.8		mg/Kg	1	10/16/2014 11:34:43 AM	15935
Surr: DNOP	85.4	57.9-140		%REC	1	10/16/2014 11:34:43 AM	15935
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	72	18		mg/Kg	4	10/16/2014 12:35:21 PM	R21955
Surr: BFB	156	80-120	S	%REC	4	10/16/2014 12:35:21 PM	R21955
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.092		mg/Kg	4	10/16/2014 12:35:21 PM	R21955
Toluene	0.28	0.18		mg/Kg	4	10/16/2014 12:35:21 PM	R21955
Ethylbenzene	0.23	0.18		mg/Kg	4	10/16/2014 12:35:21 PM	R21955
Xylenes, Total	3.8	0.37		mg/Kg	4	10/16/2014 12:35:21 PM	R21955
Surr: 4-Bromofluorobenzene	101	80-120		%REC	4	10/16/2014 12:35:21 PM	R21955

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1410757

17-Oct-14

Client: Souder, Miller and Associates

Project: Trunk K #2

Sample ID	<b>MB-15935</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>15935</b>	RunNo:	<b>21944</b>					
Prep Date:	<b>10/16/2014</b>	Analysis Date:	<b>10/16/2014</b>	SeqNo:	<b>644626</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.4		10.00		94.3	57.9	140			

Sample ID	<b>LCS-15935</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>15935</b>	RunNo:	<b>21944</b>					
Prep Date:	<b>10/16/2014</b>	Analysis Date:	<b>10/16/2014</b>	SeqNo:	<b>644804</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	43	10	50.00	0	85.2	68.6	130			
Surr: DNOP	4.2		5.000		83.7	57.9	140			

Sample ID	<b>1410757-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-37 SW Base @ 1</b>	Batch ID:	<b>15935</b>	RunNo:	<b>21944</b>					
Prep Date:	<b>10/16/2014</b>	Analysis Date:	<b>10/16/2014</b>	SeqNo:	<b>644813</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	44	9.9	49.36	0	89.7	40.1	152			
Surr: DNOP	5.0		4.936		102	57.9	140			

Sample ID	<b>1410757-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-37 SW Base @ 1</b>	Batch ID:	<b>15935</b>	RunNo:	<b>21944</b>					
Prep Date:	<b>10/16/2014</b>	Analysis Date:	<b>10/16/2014</b>	SeqNo:	<b>644814</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	45	9.9	49.46	0	90.5	40.1	152	1.07	32.1	
Surr: DNOP	5.0		4.946		102	57.9	140	0	0	

### Qualifiers:

- |   |  |
|---|--|
| * Value exceeds Maximum Contaminant Level.        | B Analyte detected in the associated Method Blank    |
| E Value above quantitation range                  | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits      | ND Not Detected at the Reporting Limit               |
| O RSD is greater than RSDlimit                    | P Sample pH greater than 2.                          |
| R RPD outside accepted recovery limits            | RL Reporting Detection Limit                         |
| S Spike Recovery outside accepted recovery limits |  |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1410757

17-Oct-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #2

Sample ID	<b>MB-15913 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21955</b>	RunNo:	<b>21955</b>					
Prep Date:		Analysis Date:	<b>10/16/2014</b>	SeqNo:	<b>645486</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		89.8	80	120			

Sample ID	<b>LCS-15913 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21955</b>	RunNo:	<b>21955</b>					
Prep Date:		Analysis Date:	<b>10/16/2014</b>	SeqNo:	<b>645487</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.6	65.8	139			
Surr: BFB	1000		1000		99.9	80	120			

Sample ID	<b>MB-15913</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>15913</b>	RunNo:	<b>21955</b>					
Prep Date:	<b>10/15/2014</b>	Analysis Date:	<b>10/16/2014</b>	SeqNo:	<b>645490</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Surr: BFB	900		1000		89.8	80	120			
-----------	-----	--	------	--	------	----	-----	--	--	--

Sample ID	<b>LCS-15913</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>15913</b>	RunNo:	<b>21955</b>					
Prep Date:	<b>10/15/2014</b>	Analysis Date:	<b>10/16/2014</b>	SeqNo:	<b>645491</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Surr: BFB	1000		1000		99.9	80	120			
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**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1410757

17-Oct-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #2

Sample ID	<b>MB-15913 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21955</b>	RunNo:	<b>21955</b>					
Prep Date:		Analysis Date:	<b>10/16/2014</b>	SeqNo:	<b>645525</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.93		1.000		92.6	80	120			

Sample ID	<b>LCS-15913 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21955</b>	RunNo:	<b>21955</b>					
Prep Date:		Analysis Date:	<b>10/16/2014</b>	SeqNo:	<b>645526</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.050	1.000	0	96.7	80	120			
Toluene	0.96	0.050	1.000	0	96.3	80	120			
Ethylbenzene	0.99	0.050	1.000	0	99.0	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.8	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.7	80	120			

Sample ID	<b>MB-15913</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>15913</b>	RunNo:	<b>21955</b>					
Prep Date:	<b>10/15/2014</b>	Analysis Date:	<b>10/16/2014</b>	SeqNo:	<b>645532</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.93		1.000		92.6	80	120			

Sample ID	<b>LCS-15913</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>15913</b>	RunNo:	<b>21955</b>					
Prep Date:	<b>10/15/2014</b>	Analysis Date:	<b>10/16/2014</b>	SeqNo:	<b>645533</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		99.7	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit



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

# Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1410757

RcptNo: 1

Received by/date: LAM 10/16/14

Logged By: Anne Thorne 10/16/2014 7:15:00 AM *Anne Thorne*

Completed By: Anne Thorne 10/16/2014 *Anne Thorne*

Reviewed By: *[Signature]* 10/16/14

### 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:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

17. Additional remarks:

### 18. Cooler Information

Cooler No:	Temp. °C:	Condition:	Seal Intact:	Seal No.:	Seal Date:	Signed By:
1	2.6	Good				

100

**Chain-of-Custody Record**

Client: SMA

Standard  Rush Same Day

Mailing Address: 401 W. Broadway  
Farmingdale, NY 11740

Project Name: Trunk #2

Phone #: 505-325-7535

Project #: 5122855

email or Fax#: Steven.mastal@saundersmiller.com

Project Manager: Steve Mastal

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

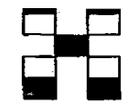
Accreditation:  
 NELAP  Other

EDD (Type)

Sampler: " "

On Ice:  Yes  No

Sample Temperature: 2°C



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

**Analysis Request**

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX	MTBE + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
10/15/14	1110	Soil	SC-37 SW Base @ 18'	4oz x 1	cool	-C01	X	X										
	1112		SC-38 W. wall @ 18'			-C02	X	X										
	1119		SC-39 S. wall (W) @ 18'			-C03	X	X										
	1120		SC-40 S. wall (E) @ 18'			-C04	X	X										

Date: 10/15/14 Time: 1315 Relinquished by: [Signature]

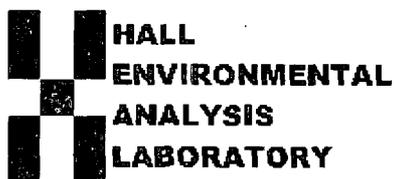
Received by: [Signature] Date: 10/15/14 Time: 1315

Date: 10/15/14 Time: 1345 Relinquished by: [Signature]

Received by: [Signature] Date: 10/16/14 Time: 0715

Remarks: Invoice to Enterprise Products  
alicia.patterson@saundersmiller.com

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



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

September 29, 2014

Steve Moskal  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX

RE: Trunk K #3

OrderNo.: 1409D19

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 9 sample(s) on 9/26/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-24 S Wall @ 6-20'

Project: Trunk K #3

Collection Date: 9/25/2014 3:21:00 PM

Lab ID: 1409D19-001

Matrix: MEOH (SOIL)

Received Date: 9/26/2014 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/26/2014 11:45:01 AM	15528
Surr: DNOP	79.5	57.9-140		%REC	1	9/26/2014 11:45:01 AM	15528
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	9/26/2014 1:26:29 PM	R21487
Surr: BFB	82.6	80-120		%REC	1	9/26/2014 1:26:29 PM	R21487
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.044		mg/Kg	1	9/26/2014 1:26:29 PM	R21487
Toluene	ND	0.044		mg/Kg	1	9/26/2014 1:26:29 PM	R21487
Ethylbenzene	ND	0.044		mg/Kg	1	9/26/2014 1:26:29 PM	R21487
Xylenes, Total	ND	0.088		mg/Kg	1	9/26/2014 1:26:29 PM	R21487
Surr: 4-Bromofluorobenzene	96.2	80-120		%REC	1	9/26/2014 1:26:29 PM	R21487

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

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-25 NE Wall @ 0-8'

Project: Trunk K #3

Collection Date: 9/25/2014 3:25:00 PM

Lab ID: 1409D19-002

Matrix: MEOH (SOIL)

Received Date: 9/26/2014 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	33	9.9		mg/Kg	1	9/26/2014 12:06:25 PM	15528
Surr: DNOP	88.4	57.9-140		%REC	1	9/26/2014 12:06:25 PM	15528
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	9/26/2014 1:56:38 PM	R21487
Surr: BFB	82.2	80-120		%REC	1	9/26/2014 1:56:38 PM	R21487
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.042		mg/Kg	1	9/26/2014 1:56:38 PM	R21487
Toluene	ND	0.042		mg/Kg	1	9/26/2014 1:56:38 PM	R21487
Ethylbenzene	ND	0.042		mg/Kg	1	9/26/2014 1:56:38 PM	R21487
Xylenes, Total	ND	0.084		mg/Kg	1	9/26/2014 1:56:38 PM	R21487
Surr: 4-Bromofluorobenzene	95.7	80-120		%REC	1	9/26/2014 1:56:38 PM	R21487

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Analytical Report

Lab Order 1409D19

Date Reported: 9/29/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-26 E Base @ 8'

Project: Trunk K #3

Collection Date: 9/25/2014 3:27:00 PM

Lab ID: 1409D19-003

Matrix: MEOH (SOIL)

Received Date: 9/26/2014 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	13	10		mg/Kg	1	9/26/2014 12:27:37 PM	15528
Surr: DNOP	104	57.9-140		%REC	1	9/26/2014 12:27:37 PM	15528
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	9/26/2014 2:26:47 PM	R21487
Surr: BFB	88.6	80-120		%REC	1	9/26/2014 2:26:47 PM	R21487
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.040		mg/Kg	1	9/26/2014 2:26:47 PM	R21487
Toluene	ND	0.040		mg/Kg	1	9/26/2014 2:26:47 PM	R21487
Ethylbenzene	ND	0.040		mg/Kg	1	9/26/2014 2:26:47 PM	R21487
Xylenes, Total	ND	0.080		mg/Kg	1	9/26/2014 2:26:47 PM	R21487
Surr: 4-Bromofluorobenzene	101	80-120		%REC	1	9/26/2014 2:26:47 PM	R21487

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 3 of 13
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Analytical Report**

Lab Order 1409D19

Date Reported: 9/29/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-27 SE Wall @ 0-8'

**Project:** Trunk K #3

**Collection Date:** 9/25/2014 3:29:00 PM

**Lab ID:** 1409D19-004

**Matrix:** MEOH (SOIL)

**Received Date:** 9/26/2014 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/26/2014 12:48:57 PM	15528
Surr: DNOP	99.9	57.9-140		%REC	1	9/26/2014 12:48:57 PM	15528
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	9/27/2014 2:30:13 AM	R21487
Surr: BFB	81.3	80-120		%REC	1	9/27/2014 2:30:13 AM	R21487
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.042		mg/Kg	1	9/27/2014 2:30:13 AM	R21487
Toluene	ND	0.042		mg/Kg	1	9/27/2014 2:30:13 AM	R21487
Ethylbenzene	ND	0.042		mg/Kg	1	9/27/2014 2:30:13 AM	R21487
Xylenes, Total	ND	0.084		mg/Kg	1	9/27/2014 2:30:13 AM	R21487
Surr: 4-Bromofluorobenzene	86.2	80-120		%REC	1	9/27/2014 2:30:13 AM	R21487

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 4 of 13
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-28 E Wall @ 0-8'

Project: Trunk K #3

Collection Date: 9/25/2014 3:30:00 PM

Lab ID: 1409D19-005

Matrix: MEOH (SOIL)

Received Date: 9/26/2014 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	19	9.9		mg/Kg	1	9/26/2014 1:10:07 PM	15528
Surr: DNOP	96.9	57.9-140		%REC	1	9/26/2014 1:10:07 PM	15528
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	9/27/2014 3:00:17 AM	R21487
Surr: BFB	83.8	80-120		%REC	1	9/27/2014 3:00:17 AM	R21487
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.043		mg/Kg	1	9/27/2014 3:00:17 AM	R21487
Toluene	ND	0.043		mg/Kg	1	9/27/2014 3:00:17 AM	R21487
Ethylbenzene	ND	0.043		mg/Kg	1	9/27/2014 3:00:17 AM	R21487
Xylenes, Total	ND	0.085		mg/Kg	1	9/27/2014 3:00:17 AM	R21487
Surr: 4-Bromofluorobenzene	90.5	80-120		%REC	1	9/27/2014 3:00:17 AM	R21487

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

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E	Value above quantitation range	H Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates Client Sample ID: SC-29 N Central Wall @ 0-20'  
 Project: Trunk K #3 Collection Date: 9/25/2014 3:38:00 PM  
 Lab ID: 1409D19-006 Matrix: MEOH (SOIL) Received Date: 9/26/2014 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/26/2014 1:31:32 PM	15528
Surr: DNOP	94.6	57.9-140		%REC	1	9/26/2014 1:31:32 PM	15528
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	9/26/2014 2:04:35 PM	R21485
Surr: BFB	89.2	80-120		%REC	1	9/26/2014 2:04:35 PM	R21485
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.042		mg/Kg	1	9/26/2014 2:04:35 PM	R21485
Toluene	ND	0.042		mg/Kg	1	9/26/2014 2:04:35 PM	R21485
Ethylbenzene	ND	0.042		mg/Kg	1	9/26/2014 2:04:35 PM	R21485
Xylenes, Total	ND	0.084		mg/Kg	1	9/26/2014 2:04:35 PM	R21485
Surr: 4-Bromofluorobenzene	92.1	80-120		%REC	1	9/26/2014 2:04:35 PM	R21485

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates  
 Project: Trunk K #3  
 Lab ID: 1409D19-007

Client Sample ID: SC-30 E Wall (Deep Exc) @ 8-2  
 Collection Date: 9/25/2014 3:40:00 PM  
 Received Date: 9/26/2014 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/26/2014 1:52:55 PM	15528
Surr: DNOP	96.4	57.9-140		%REC	1	9/26/2014 1:52:55 PM	15528
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/27/2014 1:58:58 AM	R21485
Surr: BFB	88.9	80-120		%REC	1	9/27/2014 1:58:58 AM	R21485
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.046		mg/Kg	1	9/27/2014 1:58:58 AM	R21485
Toluene	ND	0.046		mg/Kg	1	9/27/2014 1:58:58 AM	R21485
Ethylbenzene	ND	0.046		mg/Kg	1	9/27/2014 1:58:58 AM	R21485
Xylenes, Total	ND	0.092		mg/Kg	1	9/27/2014 1:58:58 AM	R21485
Surr: 4-Bromofluorobenzene	91.6	80-120		%REC	1	9/27/2014 1:58:58 AM	R21485

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-22 N Wall West Side @ 0-20

Project: Trunk K #3

Collection Date: 9/25/2014 3:15:00 PM

Lab ID: 1409D19-008

Matrix: MEOH (SOIL)

Received Date: 9/26/2014 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/26/2014 2:14:24 PM	15528
Surr: DNOP	66.0	57.9-140		%REC	1	9/26/2014 2:14:24 PM	15528
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	9/27/2014 2:27:26 AM	R21485
Surr: BFB	89.7	80-120		%REC	1	9/27/2014 2:27:26 AM	R21485
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.043		mg/Kg	1	9/27/2014 2:27:26 AM	R21485
Toluene	ND	0.043		mg/Kg	1	9/27/2014 2:27:26 AM	R21485
Ethylbenzene	ND	0.043		mg/Kg	1	9/27/2014 2:27:26 AM	R21485
Xylenes, Total	ND	0.086		mg/Kg	1	9/27/2014 2:27:26 AM	R21485
Surr: 4-Bromofluorobenzene	91.5	80-120		%REC	1	9/27/2014 2:27:26 AM	R21485

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

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E	Value above quantitation range	H Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-23 W Wall @ 6-20'

**Project:** Trunk K #3

**Collection Date:** 9/25/2014 3:17:00 PM

**Lab ID:** 1409D19-009

**Matrix:** MEOH (SOIL)

**Received Date:** 9/26/2014 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/26/2014 2:35:53 PM	15528
Surr: DNOP	94.9	57.9-140		%REC	1	9/26/2014 2:35:53 PM	15528
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	9/27/2014 2:55:52 AM	R21485
Surr: BFB	90.0	80-120		%REC	1	9/27/2014 2:55:52 AM	R21485
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.042		mg/Kg	1	9/27/2014 2:55:52 AM	R21485
Toluene	ND	0.042		mg/Kg	1	9/27/2014 2:55:52 AM	R21485
Ethylbenzene	ND	0.042		mg/Kg	1	9/27/2014 2:55:52 AM	R21485
Xylenes, Total	ND	0.083		mg/Kg	1	9/27/2014 2:55:52 AM	R21485
Surr: 4-Bromofluorobenzene	92.5	80-120		%REC	1	9/27/2014 2:55:52 AM	R21485

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409D19

29-Sep-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #3

Sample ID <b>MB-15528</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>15528</b>		RunNo: <b>21477</b>							
Prep Date: <b>9/26/2014</b>	Analysis Date: <b>9/26/2014</b>		SeqNo: <b>628039</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.5		10.00		94.6	57.9	140			

Sample ID <b>LCS-15528</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>15528</b>		RunNo: <b>21477</b>							
Prep Date: <b>9/26/2014</b>	Analysis Date: <b>9/26/2014</b>		SeqNo: <b>628040</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	101	68.6	130			
Surr: DNOP	5.0		5.000		99.0	57.9	140			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409D19

29-Sep-14

Client: Souder, Miller and Associates

Project: Trunk K #3

Sample ID	<b>MB-15512 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21485</b>	RunNo:	<b>21485</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628724</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		87.5	80	120			

Sample ID	<b>LCS-15512 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21485</b>	RunNo:	<b>21485</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628725</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	106	65.8	139			
Surr: BFB	970		1000		96.6	80	120			

Sample ID	<b>MB-15512</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>15512</b>	RunNo:	<b>21485</b>					
Prep Date:	<b>9/25/2014</b>	Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628732</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	880		1000		87.5	80	120			

Sample ID	<b>LCS-15512</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>15512</b>	RunNo:	<b>21485</b>					
Prep Date:	<b>9/25/2014</b>	Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628733</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	970		1000		96.6	80	120			

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21487</b>	RunNo:	<b>21487</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628754</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	820		1000		82.2	80	120			

Sample ID	<b>2.5UG GRO LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21487</b>	RunNo:	<b>21487</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628755</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.8	65.8	139			
Surr: BFB	900		1000		90.4	80	120			

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1409D19

29-Sep-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #3

Sample ID	<b>MB-15512 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21485</b>	RunNo:	<b>21485</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628743</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.92		1.000		92.0	80	120			

Sample ID	<b>LCS-15512 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21485</b>	RunNo:	<b>21485</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628744</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	101	80	120			
Toluene	1.0	0.050	1.000	0	99.6	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	100	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		98.9	80	120			

Sample ID	<b>MB-15512</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>15512</b>	RunNo:	<b>21485</b>					
Prep Date:	<b>9/25/2014</b>	Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628749</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.92		1.000		92.0	80	120			

Sample ID	<b>LCS-15512</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>15512</b>	RunNo:	<b>21485</b>					
Prep Date:	<b>9/25/2014</b>	Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628750</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.99		1.000		98.9	80	120			

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21487</b>	RunNo:	<b>21487</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628788</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1409D19  
29-Sep-14

**Client:** Souder, Miller and Associates  
**Project:** Trunk K #3

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21487</b>	RunNo:	<b>21487</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628788</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.96		1.000		95.9	80	120			

Sample ID	<b>100NG BTEX LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21487</b>	RunNo:	<b>21487</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628791</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	103	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

### Qualifiers:

- |   |  |
|---|--|
| * Value exceeds Maximum Contaminant Level.        | B Analyte detected in the associated Method Blank    |
| E Value above quantitation range                  | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits      | ND Not Detected at the Reporting Limit               |
| O RSD is greater than RSDlimit                    | P Sample pH greater than 2.                          |
| R RPD outside accepted recovery limits            | RL Reporting Detection Limit                         |
| S Spike Recovery outside accepted recovery limits |  |



Hall Environmental Analysis Laboratory  
 4901 Hawkins NE  
 Albuquerque, NM 87106  
 TEL: 505-345-3975 FAX: 505-345-4107  
 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1409D19

RcptNo: 1

Received by/date:	<i>[Signature]</i>	<i>09/26/14</i>
Logged By:	Lindsay Mangin	9/26/2014 8:20:00 AM <i>[Signature]</i>
Completed By:	Lindsay Mangin	9/26/2014 8:38:55 AM <i>[Signature]</i>
Reviewed By:	CS	09/26/14

**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			

# Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W. Broadway  
Farmington NM 87401

Phone #: 505 325-7535

email or Fax#: stevan.moskal@saundersmiller.com

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

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

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

Turn-Around Time:  
 Standard  Rush Same Day

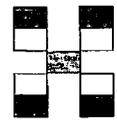
Project Name: Trunk K #3

Project #: 5122 835

Project Manager: Steve Moskal

Sampler: 11 11  
On Ice:  Yes  No

Sample Temperature: 1.6



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

### Analysis Request

BTEX + MTBE + TMBs (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO) (8021)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
12/5/14	1521	Soil	SC-24 S. Wall @ 6-20'	402x1	Cooled	14091091 -001
	1525		SC-25 NE Wall @ 0-8'			-002
	1527		SC-26 E Bn @ 8'			-003
	1529		SC-27 SE Wall @ 0-8'			-004
	1530		SC-28 E Wall @ 0-8'			-005
	1538		SC-29 N Central Wall @ 6-20'			-006
	1540		SC-30 E Wall (Deep Exc) @ 8-20'			-007
	1515		SC-22 N Wall West side @ 0-20'			-008
	1517		SC-23 W Wall @ 6-20'			-009

Date: 12/5/14 Time: 1740 Relinquished by: [Signature]  
Received by: [Signature] Date: 9/25/14 Time: 1710

Date: 1/5/14 Time: 2015 Relinquished by: [Signature]  
Received by: [Signature] Date: 10/9/2014 Time: 0820

Remarks:  
Invoiced to Enterprise Products  
Copy alicia.patterson@saundersmiller.com

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



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

October 01, 2014

Steve Moskal  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX

RE: Trunk K #4

OrderNo.: 1409D18

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/26/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-14 Base @ 19'

Project: Trunk K #4

Collection Date: 9/25/2014 2:31:00 PM

Lab ID: 1409D18-001

Matrix: MEOH (SOIL)

Received Date: 9/26/2014 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/26/2014 12:24:41 PM	15528
Surr: DNOP	91.0	57.9-140		%REC	1	9/26/2014 12:24:41 PM	15528
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	9/26/2014 9:55:30 AM	R21487
Surr: BFB	80.6	80-120		%REC	1	9/26/2014 9:55:30 AM	R21487
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.043		mg/Kg	1	9/26/2014 9:55:30 AM	R21487
Toluene	ND	0.043		mg/Kg	1	9/26/2014 9:55:30 AM	R21487
Ethylbenzene	ND	0.043		mg/Kg	1	9/26/2014 9:55:30 AM	R21487
Xylenes, Total	ND	0.086		mg/Kg	1	9/26/2014 9:55:30 AM	R21487
Surr: 4-Bromofluorobenzene	93.0	80-120		%REC	1	9/26/2014 9:55:30 AM	R21487

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates      Client Sample ID: SC-15 N Wall @ 0-19'  
 Project: Trunk K #4      Collection Date: 9/25/2014 2:35:00 PM  
 Lab ID: 1409D18-002      Matrix: MEOH (SOIL)      Received Date: 9/26/2014 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/26/2014 12:54:44 PM	15528
Surr: DNOP	81.3	57.9-140		%REC	1	9/26/2014 12:54:44 PM	15528
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	9/30/2014 7:27:07 PM	R21557
Surr: BFB	82.0	80-120		%REC	1	9/30/2014 7:27:07 PM	R21557
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.038		mg/Kg	1	9/26/2014 10:25:31 AM	R21487
Toluene	ND	0.038		mg/Kg	1	9/26/2014 10:25:31 AM	R21487
Ethylbenzene	ND	0.038		mg/Kg	1	9/26/2014 10:25:31 AM	R21487
Xylenes, Total	ND	0.076		mg/Kg	1	9/26/2014 10:25:31 AM	R21487
Surr: 4-Bromofluorobenzene	82.0	80-120		%REC	1	9/26/2014 10:25:31 AM	R21487

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates **Client Sample ID:** SC-16 E Wall @ 0-19'  
**Project:** Trunk K #4 **Collection Date:** 9/25/2014 2:39:00 PM  
**Lab ID:** 1409D18-003 **Matrix:** MEOH (SOIL) **Received Date:** 9/26/2014 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/26/2014 1:24:30 PM	15528
Surr: DNOP	86.0	57.9-140		%REC	1	9/26/2014 1:24:30 PM	15528
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	9/26/2014 10:55:40 AM	R21487
Surr: BFB	82.4	80-120		%REC	1	9/26/2014 10:55:40 AM	R21487
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.041		mg/Kg	1	9/26/2014 10:55:40 AM	R21487
Toluene	ND	0.041		mg/Kg	1	9/26/2014 10:55:40 AM	R21487
Ethylbenzene	ND	0.041		mg/Kg	1	9/26/2014 10:55:40 AM	R21487
Xylenes, Total	ND	0.082		mg/Kg	1	9/26/2014 10:55:40 AM	R21487
Surr: 4-Bromofluorobenzene	91.9	80-120		%REC	1	9/26/2014 10:55:40 AM	R21487

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-17 S Wall @ 0-18'

Project: Trunk K #4

Collection Date: 9/25/2014 2:46:00 PM

Lab ID: 1409D18-004

Matrix: MEOH (SOIL)

Received Date: 9/26/2014 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/26/2014 1:54:47 PM	15528
Surr: DNOP	93.1	57.9-140		%REC	1	9/26/2014 1:54:47 PM	15528
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/30/2014 7:57:08 PM	R21557
Surr: BFB	88.1	80-120		%REC	1	9/30/2014 7:57:08 PM	R21557
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.049		mg/Kg	1	9/26/2014 11:25:48 AM	R21487
Toluene	ND	0.049		mg/Kg	1	9/26/2014 11:25:48 AM	R21487
Ethylbenzene	ND	0.049		mg/Kg	1	9/26/2014 11:25:48 AM	R21487
Xylenes, Total	ND	0.099		mg/Kg	1	9/26/2014 11:25:48 AM	R21487
Surr: 4-Bromofluorobenzene	86.4	80-120		%REC	1	9/26/2014 11:25:48 AM	R21487

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Analytical Report**

Lab Order 1409D18

Date Reported: 10/1/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-18 W Wall @ 0-18'

**Project:** Trunk K #4

**Collection Date:** 9/25/2014 2:51:00 PM

**Lab ID:** 1409D18-005

**Matrix:** MEOH (SOIL)

**Received Date:** 9/26/2014 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/26/2014 2:25:17 PM	15528
Surr: DNOP	88.2	57.9-140		%REC	1	9/26/2014 2:25:17 PM	15528
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	9/26/2014 11:55:58 AM	R21487
Surr: BFB	75.9	80-120	S	%REC	1	9/26/2014 11:55:58 AM	R21487
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.040		mg/Kg	1	9/26/2014 11:55:58 AM	R21487
Toluene	ND	0.040		mg/Kg	1	9/26/2014 11:55:58 AM	R21487
Ethylbenzene	ND	0.040		mg/Kg	1	9/26/2014 11:55:58 AM	R21487
Xylenes, Total	ND	0.080		mg/Kg	1	9/26/2014 11:55:58 AM	R21487
Surr: 4-Bromofluorobenzene	84.8	80-120		%REC	1	9/26/2014 11:55:58 AM	R21487

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409D18

01-Oct-14

Client: Souder, Miller and Associates

Project: Trunk K #4

Sample ID	<b>MB-15528</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>15528</b>	RunNo:	<b>21477</b>					
Prep Date:	<b>9/26/2014</b>	Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628039</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.5		10.00		94.6	57.9	140			

Sample ID	<b>LCS-15528</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>15528</b>	RunNo:	<b>21477</b>					
Prep Date:	<b>9/26/2014</b>	Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628040</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	101	68.6	130			
Surr: DNOP	5.0		5.000		99.0	57.9	140			

Sample ID	<b>MB-15513</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>15513</b>	RunNo:	<b>21477</b>					
Prep Date:	<b>9/25/2014</b>	Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>629285</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		105	57.9	140			

Sample ID	<b>LCS-15513</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>15513</b>	RunNo:	<b>21477</b>					
Prep Date:	<b>9/25/2014</b>	Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>629286</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.1		5.000		102	57.9	140			

Sample ID	<b>1409D18-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-14 Base @ 19'</b>	Batch ID:	<b>15528</b>	RunNo:	<b>21478</b>					
Prep Date:	<b>9/26/2014</b>	Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>629488</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.8	49.21	0	91.3	40.1	152			
Surr: DNOP	4.3		4.921		87.7	57.9	140			

Sample ID	<b>1409D18-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-14 Base @ 19'</b>	Batch ID:	<b>15528</b>	RunNo:	<b>21478</b>					
Prep Date:	<b>9/26/2014</b>	Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>629490</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	9.9	49.46	0	98.2	40.1	152	7.74	32.1	
Surr: DNOP	4.6		4.946		93.7	57.9	140	0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409D18

01-Oct-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #4

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21487</b>	RunNo:	<b>21487</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628754</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	820		1000		82.2	80	120			

Sample ID	<b>2.5UG GRO LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21487</b>	RunNo:	<b>21487</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628755</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.8	65.8	139			
Surr: BFB	900		1000		90.4	80	120			

Sample ID	<b>1409D18-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>SC-14 Base @ 19'</b>	Batch ID:	<b>R21487</b>	RunNo:	<b>21487</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628756</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	18	4.3	21.61	0	85.1	71.8	132			
Surr: BFB	810		864.3		93.9	80	120			

Sample ID	<b>1409D18-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>SC-14 Base @ 19'</b>	Batch ID:	<b>R21487</b>	RunNo:	<b>21487</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628757</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	18	4.3	21.61	0	82.8	71.8	132	2.76	20	
Surr: BFB	810		864.3		93.2	80	120	0	0	

Sample ID	<b>B26</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21557</b>	RunNo:	<b>21557</b>					
Prep Date:		Analysis Date:	<b>9/30/2014</b>	SeqNo:	<b>631187</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		89.6	80	120			

Sample ID	<b>2.5UG GRO LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21557</b>	RunNo:	<b>21557</b>					
Prep Date:		Analysis Date:	<b>9/30/2014</b>	SeqNo:	<b>631188</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

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# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409D18

01-Oct-14

Client: Souder, Miller and Associates

Project: Trunk K #4

Sample ID: <b>2.5UG GRO LCS</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>R21557</b>	RunNo: <b>21557</b>								
Prep Date:	Analysis Date: <b>9/30/2014</b>	SeqNo: <b>631188</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.8	65.8	139			
Surr: BFB	980		1000		97.6	80	120			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1409D18

01-Oct-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #4

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21487</b>	RunNo:	<b>21487</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628788</b>	Units:	<b>mg/Kg</b>			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.96		1.000		95.9	80	120			

Sample ID	<b>100NG BTEX LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21487</b>	RunNo:	<b>21487</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628791</b>	Units:	<b>mg/Kg</b>			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	103	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID	<b>1409D18-002AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>SC-15 N Wall @ 0-1</b>	Batch ID:	<b>R21487</b>	RunNo:	<b>21487</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628794</b>	Units:	<b>mg/Kg</b>			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.77	0.038	0.7622	0	101	77.4	142			
Toluene	0.75	0.038	0.7622	0.01715	96.1	77	132			
Ethylbenzene	0.76	0.038	0.7622	0	99.7	77.6	134			
Xylenes, Total	2.4	0.076	2.287	0	103	77.4	132			
Surr: 4-Bromofluorobenzene	0.81		0.7622		106	80	120			

Sample ID	<b>1409D18-002AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>SC-15 N Wall @ 0-1</b>	Batch ID:	<b>R21487</b>	RunNo:	<b>21487</b>					
Prep Date:		Analysis Date:	<b>9/26/2014</b>	SeqNo:	<b>628795</b>	Units:	<b>mg/Kg</b>			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.74	0.038	0.7622	0	97.1	77.4	142	4.43	20	
Toluene	0.72	0.038	0.7622	0.01715	92.4	77	132	3.89	20	
Ethylbenzene	0.74	0.038	0.7622	0	96.8	77.6	134	3.00	20	
Xylenes, Total	2.3	0.076	2.287	0	101	77.4	132	2.34	20	
Surr: 4-Bromofluorobenzene	0.73		0.7622		96.0	80	120	0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1409D18

RcptNo: 1

Received by/date: AS 09/26/14

Logged By: **Lindsay Maugin** 9/26/2014 8:20:00 AM *Lindsay Maugin*

Completed By: **Lindsay Maugin** 9/26/2014 8:34:57 AM *Lindsay Maugin*

Reviewed By: mg 09/26/14

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

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

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

17. Additional remarks:

**18. Cooler Information**

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

# Chain-of-Custody Record

Client: EMMA

Mailing Address: 401 W. Broadway  
Farmington, NM 87401

Phone #: 505 925 7535

email or Fax#: sean.moskel@andersonmill.com

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

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

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

Turn-Around Time:  
 Standard       Rush Same Day

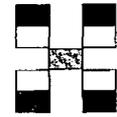
Project Name: Trunk R #4

Project #: 5122855

Project Manager: Seal Moskel

Sampler: " " " "  
 On Ice:  Yes       No

Sample Temperature: 1.6



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB'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 <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
12/25/14	1431	Soil	SC-14 Base @ 19'	402X2	Cooled	14091D18-001	↓	↓	↓									
	1435	↓	SC-15 N wall @ 0-19'	↓	↓	-002												
	1439	↓	SC-16 E wall @ 0-19'	↓	↓	-003												
	1446	↓	SC-17 S wall @ 0-18'	↓	↓	-004												
	1451	↓	SC-18 W wall @ 0-18'	↓	↓	-005												

Date: <u>12/25/14</u>	Time: <u>1710</u>	Relinquished by: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Date: <u>12/25/14</u>	Time: <u>1710</u>
Date: <u>1/25/14</u>	Time: <u>2015</u>	Relinquished by: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Date: <u>09/26/12</u>	Time: <u>10820</u>

Remarks: Invoice to Enterprise Products  
Copy alicia.patterson@andersonmill.com

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



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

September 26, 2014

Steve Moskal

Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX

RE: Trunk K #5

OrderNo.: 1409C37

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/25/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

Analytical Report

Lab Order 1409C37

Date Reported: 9/26/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-21 N Wall @ 0-15'

**Project:** Trunk K #5

**Collection Date:** 9/24/2014 4:10:00 PM

**Lab ID:** 1409C37-001

**Matrix:** MEOH (SOIL)

**Received Date:** 9/25/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/25/2014 11:39:20 AM	15500
Surr: DNOP	96.6	57.9-140		%REC	1	9/25/2014 11:39:20 AM	15500
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	9/25/2014 11:13:02 AM	R21449
Surr: BFB	87.9	80-120		%REC	1	9/25/2014 11:13:02 AM	R21449
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.042		mg/Kg	1	9/25/2014 11:13:02 AM	R21449
Toluene	ND	0.042		mg/Kg	1	9/25/2014 11:13:02 AM	R21449
Ethylbenzene	ND	0.042		mg/Kg	1	9/25/2014 11:13:02 AM	R21449
Xylenes, Total	ND	0.084		mg/Kg	1	9/25/2014 11:13:02 AM	R21449
Surr: 4-Bromofluorobenzene	92.0	80-120		%REC	1	9/25/2014 11:13:02 AM	R21449

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-22 W. Wall @ 0-15'

**Project:** Trunk K #5

**Collection Date:** 9/24/2014 4:17:00 PM

**Lab ID:** 1409C37-002

**Matrix:** MEOH (SOIL)

**Received Date:** 9/25/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/25/2014 12:00:42 PM	15500
Surr: DNOP	95.5	57.9-140		%REC	1	9/25/2014 12:00:42 PM	15500
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	9/25/2014 11:41:37 AM	R21449
Surr: BFB	88.7	80-120		%REC	1	9/25/2014 11:41:37 AM	R21449
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.041		mg/Kg	1	9/25/2014 11:41:37 AM	R21449
Toluene	ND	0.041		mg/Kg	1	9/25/2014 11:41:37 AM	R21449
Ethylbenzene	ND	0.041		mg/Kg	1	9/25/2014 11:41:37 AM	R21449
Xylenes, Total	ND	0.083		mg/Kg	1	9/25/2014 11:41:37 AM	R21449
Surr: 4-Bromofluorobenzene	93.8	80-120		%REC	1	9/25/2014 11:41:37 AM	R21449

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 2 of 8
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-23 E. Wall @ 0-15'

Project: Trunk K #5

Collection Date: 9/24/2014 4:25:00 PM

Lab ID: 1409C37-003

Matrix: MEOH (SOIL)

Received Date: 9/25/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/25/2014 12:22:05 PM	15500
Surr: DNOP	91.2	57.9-140		%REC	1	9/25/2014 12:22:05 PM	15500
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	9/25/2014 12:10:08 PM	R21449
Surr: BFB	88.7	80-120		%REC	1	9/25/2014 12:10:08 PM	R21449
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.044		mg/Kg	1	9/25/2014 12:10:08 PM	R21449
Toluene	ND	0.044		mg/Kg	1	9/25/2014 12:10:08 PM	R21449
Ethylbenzene	ND	0.044		mg/Kg	1	9/25/2014 12:10:08 PM	R21449
Xylenes, Total	ND	0.089		mg/Kg	1	9/25/2014 12:10:08 PM	R21449
Surr: 4-Bromofluorobenzene	92.7	80-120		%REC	1	9/25/2014 12:10:08 PM	R21449

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-24 S. Wall @ 0-15'

Project: Trunk K #5

Collection Date: 9/24/2014 4:27:00 PM

Lab ID: 1409C37-004

Matrix: MEOH (SOIL)

Received Date: 9/25/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/25/2014 12:43:32 PM	15500
Surr: DNOP	93.3	57.9-140		%REC	1	9/25/2014 12:43:32 PM	15500
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	9/25/2014 12:38:47 PM	R21449
Surr: BFB	89.3	80-120		%REC	1	9/25/2014 12:38:47 PM	R21449
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.036		mg/Kg	1	9/25/2014 12:38:47 PM	R21449
Toluene	ND	0.036		mg/Kg	1	9/25/2014 12:38:47 PM	R21449
Ethylbenzene	ND	0.036		mg/Kg	1	9/25/2014 12:38:47 PM	R21449
Xylenes, Total	ND	0.073		mg/Kg	1	9/25/2014 12:38:47 PM	R21449
Surr: 4-Bromofluorobenzene	93.4	80-120		%REC	1	9/25/2014 12:38:47 PM	R21449

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates  
**Project:** Trunk K #5  
**Lab ID:** 1409C37-005

**Client Sample ID:** SC-25 Base @ 15'  
**Collection Date:** 9/24/2014 4:30:00 PM  
**Received Date:** 9/25/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/25/2014 11:18:10 AM	15500
Surr: DNOP	96.4	57.9-140		%REC	1	9/25/2014 11:18:10 AM	15500
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/25/2014 1:07:28 PM	R21449
Surr: BFB	90.8	80-120		%REC	1	9/25/2014 1:07:28 PM	R21449
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	9/25/2014 1:07:28 PM	R21449
Toluene	ND	0.050		mg/Kg	1	9/25/2014 1:07:28 PM	R21449
Ethylbenzene	ND	0.050		mg/Kg	1	9/25/2014 1:07:28 PM	R21449
Xylenes, Total	ND	0.099		mg/Kg	1	9/25/2014 1:07:28 PM	R21449
Surr: 4-Bromofluorobenzene	94.3	80-120		%REC	1	9/25/2014 1:07:28 PM	R21449

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409C37

26-Sep-14

Client: Souder, Miller and Associates

Project: Trunk K #5

Sample ID	MB-15500	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	15500	RunNo:	21436					
Prep Date:	9/25/2014	Analysis Date:	9/25/2014	SeqNo:	626728	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.9		10.00		99.2	57.9	140			

Sample ID	LCS-15500	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	15500	RunNo:	21436					
Prep Date:	9/25/2014	Analysis Date:	9/25/2014	SeqNo:	626795	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	113	68.6	130			
Surr: DNOP	4.8		5.000		96.5	57.9	140			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1409C37

26-Sep-14

Client: Souder, Miller and Associates

Project: Trunk K #5

Sample ID	<b>MB-15490 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21449</b>	RunNo:	<b>21449</b>					
Prep Date:		Analysis Date:	<b>9/25/2014</b>	SeqNo:	<b>627596</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		87.7	80	120			

Sample ID	<b>LCS-15490 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21449</b>	RunNo:	<b>21449</b>					
Prep Date:		Analysis Date:	<b>9/25/2014</b>	SeqNo:	<b>627597</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	116	65.8	139			
Surr: BFB	980		1000		98.0	80	120			

### Qualifiers:

- |   |  |
|---|--|
| * Value exceeds Maximum Contaminant Level.        | B Analyte detected in the associated Method Blank    |
| E Value above quantitation range                  | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits      | ND Not Detected at the Reporting Limit               |
| O RSD is greater than RSDlimit                    | P Sample pH greater than 2.                          |
| R RPD outside accepted recovery limits            | RL Reporting Detection Limit                         |
| S Spike Recovery outside accepted recovery limits |  |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1409C37

26-Sep-14

Client: Souder, Miller and Associates

Project: Trunk K #5

Sample ID	<b>MB-15490 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21449</b>	RunNo:	<b>21449</b>					
Prep Date:		Analysis Date:	<b>9/25/2014</b>	SeqNo:	<b>627632</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.91		1.000		91.4	80	120			

Sample ID	<b>LCS-15490 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21449</b>	RunNo:	<b>21449</b>					
Prep Date:		Analysis Date:	<b>9/25/2014</b>	SeqNo:	<b>627633</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Benzene	1.0	0.050	1.000	0	102	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

### Qualifiers:

- |   |  |
|---|--|
| * Value exceeds Maximum Contaminant Level.        | B Analyte detected in the associated Method Blank    |
| E Value above quantitation range                  | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits      | ND Not Detected at the Reporting Limit               |
| O RSD is greater than RSDlimit                    | P Sample pH greater than 2.                          |
| R RPD outside accepted recovery limits            | RL Reporting Detection Limit                         |
| S Spike Recovery outside accepted recovery limits |  |

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1409C37

RcptNo: 1

Received by/date: [Signature] 09/25/14

Logged By: Lindsay Mangin 9/25/2014 7:00:00 AM [Signature]

Completed By: Lindsay Mangin 9/25/2014 7:48:19 AM [Signature]

Reviewed By: MS 09/25/14

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes  No
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes  No

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

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

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

17. Additional remarks:

**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good	Yes			

# Chain-of-Custody Record

Turn-Around Time:

Client: SMM

Standard  Rush Same Day

Mailing Address: 401 W. Broadway  
Farmington, NM 87401

Project Name: Trunk K #5

Project #: 5122855 BG 45-5

Phone #: 505 325 7535  
email or Fax#: Steve.Muskal@smm.com

Project Manager: Steve Muskal

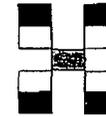
QA/QC Package:  
 Standard  Level 4 (Full Validation)

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

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

Sampler: Sm  
On Ice:  Yes  No

Sample Temperature: 1.5



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO/DRO/HRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)	
12/4/14	1610	Soil	SC-21 W wall @ 0-15'	402x1	cooled	-001	↓	↓											
	1617		SC-22 W wall @ 0-15'			-002													
	1625		SC-23 E wall @ 0-15'			-003													
	1627		SC-24 S wall @ 0-15'			-004													
	1630		SC-25 Bas @ 15'			-005													

Date: 12/4/14 Time: 0745 Relinquished by: [Signature]

Received by: [Signature] Date: 12/4/14 Time: 1817

Date: 12/4/14 Time: 1915 Relinquished by: [Signature]

Received by: [Signature] Date: 09/25/14 Time: 0700

Remarks: Please Invoice to Enterprise Products  
Copy allcia.patterson@smm.com

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



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

October 03, 2014

Steve Moskal  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX

RE: Trunk K #6

OrderNo.: 1410073

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 5 sample(s) on 10/2/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

140

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-12 W Wall @ 0-21'

Project: Trunk K #6

Collection Date: 10/1/2014 11:05:00 AM

Lab ID: 1410073-001

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/2/2014 10:57:22 AM	15671
Surr: DNOP	82.4	57.9-140		%REC	1	10/2/2014 10:57:22 AM	15671
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	10/2/2014 11:27:07 AM	R21609
Surr: BFB	92.1	80-120		%REC	1	10/2/2014 11:27:07 AM	R21609
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	10/2/2014 11:27:07 AM	R21609
Toluene	ND	0.034		mg/Kg	1	10/2/2014 11:27:07 AM	R21609
Ethylbenzene	ND	0.034		mg/Kg	1	10/2/2014 11:27:07 AM	R21609
Xylenes, Total	ND	0.068		mg/Kg	1	10/2/2014 11:27:07 AM	R21609
Surr: 4-Bromofluorobenzene	95.2	80-120		%REC	1	10/2/2014 11:27:07 AM	R21609

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-13 N Wall @ 0-21'

Project: Trunk K #6

Collection Date: 10/1/2014 11:07:00 AM

Lab ID: 1410073-002

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/2/2014 11:56:22 AM	15671
Surr: DNOP	82.0	57.9-140		%REC	1	10/2/2014 11:56:22 AM	15671
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	10/2/2014 11:55:45 AM	R21609
Surr: BFB	94.8	80-120		%REC	1	10/2/2014 11:55:45 AM	R21609
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.041		mg/Kg	1	10/2/2014 11:55:45 AM	R21609
Toluene	ND	0.041		mg/Kg	1	10/2/2014 11:55:45 AM	R21609
Ethylbenzene	ND	0.041		mg/Kg	1	10/2/2014 11:55:45 AM	R21609
Xylenes, Total	ND	0.081		mg/Kg	1	10/2/2014 11:55:45 AM	R21609
Surr: 4-Bromofluorobenzene	94.1	80-120		%REC	1	10/2/2014 11:55:45 AM	R21609

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-14 Base @ 21'

Project: Trunk K #6

Collection Date: 10/1/2014 11:11:00 AM

Lab ID: 1410073-003

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/2/2014 12:18:01 PM	15671
Surr: DNOP	81.5	57.9-140		%REC	1	10/2/2014 12:18:01 PM	15671
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	10/2/2014 12:24:23 PM	R21609
Surr: BFB	99.7	80-120		%REC	1	10/2/2014 12:24:23 PM	R21609
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.039		mg/Kg	1	10/2/2014 12:24:23 PM	R21609
Toluene	ND	0.039		mg/Kg	1	10/2/2014 12:24:23 PM	R21609
Ethylbenzene	ND	0.039		mg/Kg	1	10/2/2014 12:24:23 PM	R21609
Xylenes, Total	ND	0.078		mg/Kg	1	10/2/2014 12:24:23 PM	R21609
Surr: 4-Bromofluorobenzene	96.9	80-120		%REC	1	10/2/2014 12:24:23 PM	R21609

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

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

**Analytical Report**

Lab Order 1410073

Date Reported: 10/3/2014

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-15 E Wall @ 21'

**Project:** Trunk K #6

**Collection Date:** 10/1/2014 11:15:00 AM

**Lab ID:** 1410073-004

**Matrix:** SOIL

**Received Date:** 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	24	10		mg/Kg	1	10/2/2014 11:31:00 AM	15671
Surr: DNOP	94.7	57.9-140		%REC	1	10/2/2014 11:31:00 AM	15671
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	140	18		mg/Kg	5	10/2/2014 12:53:00 PM	R21609
Surr: BFB	162	80-120	S	%REC	5	10/2/2014 12:53:00 PM	R21609
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.088		mg/Kg	5	10/2/2014 12:53:00 PM	R21609
Toluene	1.1	0.18		mg/Kg	5	10/2/2014 12:53:00 PM	R21609
Ethylbenzene	0.27	0.18		mg/Kg	5	10/2/2014 12:53:00 PM	R21609
Xylenes, Total	3.0	0.35		mg/Kg	5	10/2/2014 12:53:00 PM	R21609
Surr: 4-Bromofluorobenzene	104	80-120		%REC	5	10/2/2014 12:53:00 PM	R21609

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates **Client Sample ID:** SC-16 S Wall @ 21'  
**Project:** Trunk K #6 **Collection Date:** 10/1/2014 11:20:00 AM  
**Lab ID:** 1410073-005 **Matrix:** SOIL **Received Date:** 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/2/2014 12:01:30 PM	15671
Surr: DNOP	95.0	57.9-140		%REC	1	10/2/2014 12:01:30 PM	15671
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	19		mg/Kg	5	10/2/2014 1:21:40 PM	R21609
Surr: BFB	94.0	80-120		%REC	5	10/2/2014 1:21:40 PM	R21609
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.097		mg/Kg	5	10/2/2014 1:21:40 PM	R21609
Toluene	ND	0.19		mg/Kg	5	10/2/2014 1:21:40 PM	R21609
Ethylbenzene	ND	0.19		mg/Kg	5	10/2/2014 1:21:40 PM	R21609
Xylenes, Total	ND	0.39		mg/Kg	5	10/2/2014 1:21:40 PM	R21609
Surr: 4-Bromofluorobenzene	94.8	80-120		%REC	5	10/2/2014 1:21:40 PM	R21609

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410073

03-Oct-14

Client: Souder, Miller and Associates

Project: Trunk K #6

Sample ID	<b>MB-15671</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>15671</b>	RunNo:	<b>21605</b>					
Prep Date:	<b>10/2/2014</b>	Analysis Date:	<b>10/2/2014</b>	SeqNo:	<b>633783</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	8.7		10.00		87.2	57.9	140			

Sample ID	<b>LCS-15671</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>15671</b>	RunNo:	<b>21605</b>					
Prep Date:	<b>10/2/2014</b>	Analysis Date:	<b>10/2/2014</b>	SeqNo:	<b>633858</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.7	68.6	130			
Surr: DNOP	4.3		5.000		85.5	57.9	140			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1410073

03-Oct-14

Client: Souder, Miller and Associates

Project: Trunk K #6

Sample ID	<b>MB-15650 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21609</b>	RunNo:	<b>21609</b>					
Prep Date:		Analysis Date:	<b>10/2/2014</b>	SeqNo:	<b>634279</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		90.0	80	120			

Sample ID	<b>LCS-15650 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21609</b>	RunNo:	<b>21609</b>					
Prep Date:		Analysis Date:	<b>10/2/2014</b>	SeqNo:	<b>634280</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	26	5.0	25.00	0	104	65.8	139			
Surr: BFB	980		1000		98.2	80	120			

Sample ID	<b>B26</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21609</b>	RunNo:	<b>21609</b>					
Prep Date:		Analysis Date:	<b>10/2/2014</b>	SeqNo:	<b>634288</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		89.8	80	120			

Sample ID	<b>2.5UG GRO LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21609</b>	RunNo:	<b>21609</b>					
Prep Date:		Analysis Date:	<b>10/2/2014</b>	SeqNo:	<b>634289</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	25	5.0	25.00	0	100	65.8	139			
Surr: BFB	970		1000		97.2	80	120			

### Qualifiers:

- |   |  |
|---|--|
| * Value exceeds Maximum Contaminant Level.        | B Analyte detected in the associated Method Blank    |
| E Value above quantitation range                  | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits      | ND Not Detected at the Reporting Limit               |
| O RSD is greater than RSDlimit                    | P Sample pH greater than 2.                          |
| R RPD outside accepted recovery limits            | RL Reporting Detection Limit                         |
| S Spike Recovery outside accepted recovery limits |  |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410073

03-Oct-14

Client: Souder, Miller and Associates

Project: Trunk K #6

Sample ID	<b>MB-15650 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R21609</b>	RunNo:	<b>21609</b>					
Prep Date:		Analysis Date:	<b>10/2/2014</b>	SeqNo:	<b>634339</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		94.6	80	120			

Sample ID	<b>LCS-15650 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R21609</b>	RunNo:	<b>21609</b>					
Prep Date:		Analysis Date:	<b>10/2/2014</b>	SeqNo:	<b>634350</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	99.0	80	120			
Toluene	0.97	0.050	1.000	0	97.1	80	120			
Ethylbenzene	0.99	0.050	1.000	0	99.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.9	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1410073

RcptNo: 1

Received by/date: LM 10/02/14

Logged By: Anne Thorne 10/2/2014 6:50:00 AM *Anne Thorne*

Completed By: Anne Thorne 10/2/2014 *Anne Thorne*

Reviewed By: *[Signature]* 10/02/14

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

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

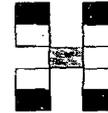
Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

17. Additional remarks:

**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No.	Seal Date	Signed By
1	1.3	Good	Yes			

**Chain-of-Custody Record**



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: GMA

Turn-Around Time:  
 Standard  Rush Same Day

Mailing Address: 401 W Broadway  
 Farmington, NM 87401

Project Name: Trunk # #6

Phone #: 505 325 7585

Project #: 8122855 BG-6

email or Fax#: Steven.mosk@soilermiller.com

Project Manager: Steve Moskal

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

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

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

Sampler: " "

On Ice:  Yes  No

Sample Temperature: 1.3

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No
10/1/14	1105	soil	SC-12 W wall @ 0-21'	4oz x 1	cooled	-01
	1107		SC-13 W wall @ 0-21'			-02
	1111		SC-14 Base @ 21'			-03
	1116		SC-15 E wall @ 21'			-04
	1120		SC-16 S wall @ 21'			-05

**Analysis Request**

<input checked="" type="checkbox"/> BTEX + MTBE + TMB's (8021)	<input type="checkbox"/> BTEX + MTBE + TPH (Gas only)	<input checked="" type="checkbox"/> TPH 8015B (GRO / DRO / MRO)	<input type="checkbox"/> TPH (Method 418.1)	<input type="checkbox"/> EDB (Method 504.1)	<input type="checkbox"/> PAH's (8310 or 8270 SIMS)	<input type="checkbox"/> RCRA 8 Metals	<input type="checkbox"/> Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	<input type="checkbox"/> 8081 Pesticides / 8082 PCB's	<input type="checkbox"/> 8260B (VOA)	<input type="checkbox"/> 8270 (Semi-VOA)
--	---	---	---	---	--	--	---	---	--------------------------------------	--

Date: 10/1/14 Time: 1735 Relinquished by: [Signature]

Received by: Master Weber Date: 10/1/14 Time: 1735

Remarks: Invoice to Enterprise Products

Date: 10/1/14 Time: 1815 Relinquished by: Master Weber

Received by: [Signature] Date: 10/02/14 Time: 0650

Copy Alicia.patterson@soilermiller.com

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



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

October 06, 2014

Steve Moskal  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX:

RE: Trunk K #6

OrderNo.: 1410135

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/3/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-17 E Wall @ 0-21'

Project: Trunk K #6

Collection Date: 10/2/2014 4:20:00 PM

Lab ID: 1410135-001

Matrix: SOIL

Received Date: 10/3/2014 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/3/2014 3:07:32 PM	15696
Surr: DNOP	93.7	57.9-140		%REC	1	10/3/2014 3:07:32 PM	15696
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	10/3/2014 11:37:38 AM	R21650
Surr: BFB	91.1	80-120		%REC	1	10/3/2014 11:37:38 AM	R21650
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.044		mg/Kg	1	10/3/2014 11:37:38 AM	R21650
Toluene	ND	0.044		mg/Kg	1	10/3/2014 11:37:38 AM	R21650
Ethylbenzene	ND	0.044		mg/Kg	1	10/3/2014 11:37:38 AM	R21650
Xylenes, Total	ND	0.088		mg/Kg	1	10/3/2014 11:37:38 AM	R21650
Surr: 4-Bromofluorobenzene	95.7	80-120		%REC	1	10/3/2014 11:37:38 AM	R21650

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410135

06-Oct-14

Client: Souder, Miller and Associates

Project: Trunk K #6

Sample ID: <b>MB-15696</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>15696</b>	RunNo: <b>21649</b>								
Prep Date: <b>10/3/2014</b>	Analysis Date: <b>10/3/2014</b>	SeqNo: <b>635349</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	7.9		10.00		79.3	57.9	140			

Sample ID: <b>LCS-15696</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>15696</b>	RunNo: <b>21649</b>								
Prep Date: <b>10/3/2014</b>	Analysis Date: <b>10/3/2014</b>	SeqNo: <b>635354</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	107	68.6	130			
Surr: DNOP	4.5		5.000		90.3	57.9	140			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1410135

06-Oct-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #6

Sample ID: <b>MB-15674 MK</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>R21650</b>	RunNo: <b>21650</b>								
Prep Date:	Analysis Date: <b>10/3/2014</b>	SeqNo: <b>635786</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		90.0	80	120			

Sample ID: <b>LCS-15674 MK</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>R21650</b>	RunNo: <b>21650</b>								
Prep Date:	Analysis Date: <b>10/3/2014</b>	SeqNo: <b>635787</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	65.8	139			
Surr: BFB	1000		1000		100	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410135

06-Oct-14

Client: Souder, Miller and Associates

Project: Trunk K #6

Sample ID: <b>MB-15674 MK</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>R21650</b>	RunNo: <b>21650</b>								
Prep Date:	Analysis Date: <b>10/3/2014</b>	SeqNo: <b>635822</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.96		1.000		95.8	80	120			

Sample ID: <b>LCS-15674 MK</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>R21650</b>	RunNo: <b>21650</b>								
Prep Date:	Analysis Date: <b>10/3/2014</b>	SeqNo: <b>635823</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	103	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spikc Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1410135

RcptNo: 1

Received by/date: LM 10/03/14

Logged By: Anne Thorne 10/3/2014 7:40:00 AM *Anne Thorne*

Completed By: Anne Thorne 10/3/2014 *Anne Thorne*

Reviewed By: CS 10/3/14

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes  No
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? (If no, notify customer for authorization.) Yes  No

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

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

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

17. Additional remarks:

**18. Cooler Information**

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





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

November 10, 2014

Shawna Chubbuck  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX (505) 327-1496

RE: Trunk K #7

OrderNo.: 1411263

Dear Shawna Chubbuck:

Hall Environmental Analysis Laboratory received 13 sample(s) on 11/7/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-1 NW Wall

Project: Trunk K #7

Collection Date: 11/6/2014 10:01:00 AM

Lab ID: 1411263-001

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2014 10:25:50 AM	16286
Surr: DNOP	115	63.5-128		%REC	1	11/7/2014 10:25:50 AM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	11/7/2014 10:42:21 AM	R22407
Surr: BFB	90.6	80-120		%REC	1	11/7/2014 10:42:21 AM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.035		mg/Kg	1	11/7/2014 10:42:21 AM	R22407
Toluene	ND	0.035		mg/Kg	1	11/7/2014 10:42:21 AM	R22407
Ethylbenzene	ND	0.035		mg/Kg	1	11/7/2014 10:42:21 AM	R22407
Xylenes, Total	ND	0.071		mg/Kg	1	11/7/2014 10:42:21 AM	R22407
Surr: 4-Bromofluorobenzene	95.5	80-120		%REC	1	11/7/2014 10:42:21 AM	R22407

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates  
 Project: Trunk K #7  
 Lab ID: 1411263-002

Client Sample ID: SC-2 NC Wall  
 Collection Date: 11/6/2014 10:03:00 AM  
 Matrix: MEOH (SOIL) Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/7/2014 10:55:45 AM	16286
Surr: DNOP	119	63.5-128		%REC	1	11/7/2014 10:55:45 AM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	11/7/2014 11:10:59 AM	R22407
Surr: BFB	91.1	80-120		%REC	1	11/7/2014 11:10:59 AM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.036		mg/Kg	1	11/7/2014 11:10:59 AM	R22407
Toluene	ND	0.036		mg/Kg	1	11/7/2014 11:10:59 AM	R22407
Ethylbenzene	ND	0.036		mg/Kg	1	11/7/2014 11:10:59 AM	R22407
Xylenes, Total	ND	0.073		mg/Kg	1	11/7/2014 11:10:59 AM	R22407
Surr: 4-Bromofluorobenzene	95.9	80-120		%REC	1	11/7/2014 11:10:59 AM	R22407

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates  
**Project:** Trunk K #7  
**Lab ID:** 1411263-003

**Client Sample ID:** SC-3 NE Wall  
**Collection Date:** 11/6/2014 10:05:00 AM  
**Received Date:** 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/7/2014 1:16:34 PM	16286
Surr: DNOP	128	63.5-128	S	%REC	1	11/7/2014 1:16:34 PM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	11/7/2014 11:39:33 AM	R22407
Surr: BFB	91.4	80-120		%REC	1	11/7/2014 11:39:33 AM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	11/7/2014 11:39:33 AM	R22407
Toluene	ND	0.032		mg/Kg	1	11/7/2014 11:39:33 AM	R22407
Ethylbenzene	ND	0.032		mg/Kg	1	11/7/2014 11:39:33 AM	R22407
Xylenes, Total	ND	0.064		mg/Kg	1	11/7/2014 11:39:33 AM	R22407
Surr: 4-Bromofluorobenzene	95.4	80-120		%REC	1	11/7/2014 11:39:33 AM	R22407

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-4 SW Wall

Project: Trunk K #7

Collection Date: 11/6/2014 10:09:00 AM

Lab ID: 1411263-004

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/7/2014 1:46:57 PM	16286
Surr: DNOP	119	63.5-128		%REC	1	11/7/2014 1:46:57 PM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	11/7/2014 12:08:13 PM	R22407
Surr: BFB	95.5	80-120		%REC	1	11/7/2014 12:08:13 PM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	11/7/2014 12:08:13 PM	R22407
Toluene	ND	0.034		mg/Kg	1	11/7/2014 12:08:13 PM	R22407
Ethylbenzene	ND	0.034		mg/Kg	1	11/7/2014 12:08:13 PM	R22407
Xylenes, Total	ND	0.069		mg/Kg	1	11/7/2014 12:08:13 PM	R22407
Surr: 4-Bromofluorobenzene	97.5	80-120		%REC	1	11/7/2014 12:08:13 PM	R22407

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-5 SC Wall

Project: Trunk K #7

Collection Date: 11/6/2014 10:11:00 AM

Lab ID: 1411263-005

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2014 1:21:05 PM	16286
Surr: DNOP	92.0	63.5-128		%REC	1	11/7/2014 1:21:05 PM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	11/7/2014 12:36:57 PM	R22407
Surr: BFB	91.0	80-120		%REC	1	11/7/2014 12:36:57 PM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.035		mg/Kg	1	11/7/2014 12:36:57 PM	R22407
Toluene	ND	0.035		mg/Kg	1	11/7/2014 12:36:57 PM	R22407
Ethylbenzene	ND	0.035		mg/Kg	1	11/7/2014 12:36:57 PM	R22407
Xylenes, Total	ND	0.069		mg/Kg	1	11/7/2014 12:36:57 PM	R22407
Surr: 4-Bromofluorobenzene	93.4	80-120		%REC	1	11/7/2014 12:36:57 PM	R22407

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates **Client Sample ID:** SC-6 SE Wall  
**Project:** Trunk K #7 **Collection Date:** 11/6/2014 10:15:00 AM  
**Lab ID:** 1411263-006 **Matrix:** MEOH (SOIL) **Received Date:** 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/7/2014 3:31:02 PM	16286
Surr: DNOP	88.3	63.5-128		%REC	1	11/7/2014 3:31:02 PM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	11/7/2014 1:05:36 PM	R22407
Surr: BFB	91.0	80-120		%REC	1	11/7/2014 1:05:36 PM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	11/7/2014 1:05:36 PM	R22407
Toluene	ND	0.034		mg/Kg	1	11/7/2014 1:05:36 PM	R22407
Ethylbenzene	ND	0.034		mg/Kg	1	11/7/2014 1:05:36 PM	R22407
Xylenes, Total	ND	0.068		mg/Kg	1	11/7/2014 1:05:36 PM	R22407
Surr: 4-Bromofluorobenzene	94.2	80-120		%REC	1	11/7/2014 1:05:36 PM	R22407

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

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E	Value above quantitation range	H Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-7 E Wall

Project: Trunk K #7

Collection Date: 11/6/2014 10:18:00 AM

Lab ID: 1411263-007

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2014 2:04:32 PM	16286
Surr: DNOP	101	63.5-128		%REC	1	11/7/2014 2:04:32 PM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	11/7/2014 1:34:16 PM	R22407
Surr: BFB	91.4	80-120		%REC	1	11/7/2014 1:34:16 PM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	11/7/2014 1:34:16 PM	R22407
Toluene	ND	0.034		mg/Kg	1	11/7/2014 1:34:16 PM	R22407
Ethylbenzene	ND	0.034		mg/Kg	1	11/7/2014 1:34:16 PM	R22407
Xylenes, Total	ND	0.068		mg/Kg	1	11/7/2014 1:34:16 PM	R22407
Surr: 4-Bromofluorobenzene	93.6	80-120		%REC	1	11/7/2014 1:34:16 PM	R22407

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-8 W Wall

Project: Trunk K #7

Collection Date: 11/6/2014 10:21:00 AM

Lab ID: 1411263-008

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2014 10:49:22 AM	16286
Surr: DNOP	130	63.5-128	S	%REC	1	11/7/2014 10:49:22 AM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	11/7/2014 2:02:59 PM	R22407
Surr: BFB	90.9	80-120		%REC	1	11/7/2014 2:02:59 PM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.035		mg/Kg	1	11/7/2014 2:02:59 PM	R22407
Toluene	ND	0.035		mg/Kg	1	11/7/2014 2:02:59 PM	R22407
Ethylbenzene	ND	0.035		mg/Kg	1	11/7/2014 2:02:59 PM	R22407
Xylenes, Total	ND	0.070		mg/Kg	1	11/7/2014 2:02:59 PM	R22407
Surr: 4-Bromofluorobenzene	96.3	80-120		%REC	1	11/7/2014 2:02:59 PM	R22407

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 8 of 18
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-9 E Base

Project: Trunk K #7

Collection Date: 11/6/2014 10:23:00 AM

Lab ID: 1411263-009

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2014 11:10:49 AM	16286
Surr: DNOP	123	63.5-128		%REC	1	11/7/2014 11:10:49 AM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	11/7/2014 2:31:35 PM	R22407
Surr: BFB	92.2	80-120		%REC	1	11/7/2014 2:31:35 PM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	11/7/2014 2:31:35 PM	R22407
Toluene	ND	0.034		mg/Kg	1	11/7/2014 2:31:35 PM	R22407
Ethylbenzene	ND	0.034		mg/Kg	1	11/7/2014 2:31:35 PM	R22407
Xylenes, Total	ND	0.067		mg/Kg	1	11/7/2014 2:31:35 PM	R22407
Surr: 4-Bromofluorobenzene	95.2	80-120		%REC	1	11/7/2014 2:31:35 PM	R22407

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-10 W Base

Project: Trunk K #7

Collection Date: 11/6/2014 10:26:00 AM

Lab ID: 1411263-010

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/7/2014 11:33:07 AM	16286
Surr: DNOP	98.7	63.5-128		%REC	1	11/7/2014 11:33:07 AM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	11/7/2014 3:00:16 PM	R22407
Surr: BFB	92.0	80-120		%REC	1	11/7/2014 3:00:16 PM	R22407
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.034		mg/Kg	1	11/7/2014 3:00:16 PM	R22407
Toluene	ND	0.034		mg/Kg	1	11/7/2014 3:00:16 PM	R22407
Ethylbenzene	ND	0.034		mg/Kg	1	11/7/2014 3:00:16 PM	R22407
Xylenes, Total	ND	0.068		mg/Kg	1	11/7/2014 3:00:16 PM	R22407
Surr: 4-Bromofluorobenzene	94.7	80-120		%REC	1	11/7/2014 3:00:16 PM	R22407

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

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E	Value above quantitation range	H Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-11 SP-1

Project: Trunk K #7

Collection Date: 11/6/2014 10:29:00 AM

Lab ID: 1411263-011

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2014 11:54:42 AM	16286
Surr: DNOP	90.4	63.5-128		%REC	1	11/7/2014 11:54:42 AM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	11/7/2014 10:40:10 AM	R22405
Surr: BFB	99.1	80-120		%REC	1	11/7/2014 10:40:10 AM	R22405
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.039		mg/Kg	1	11/7/2014 10:40:10 AM	R22405
Toluene	ND	0.039		mg/Kg	1	11/7/2014 10:40:10 AM	R22405
Ethylbenzene	ND	0.039		mg/Kg	1	11/7/2014 10:40:10 AM	R22405
Xylenes, Total	ND	0.078		mg/Kg	1	11/7/2014 10:40:10 AM	R22405
Surr: 4-Bromofluorobenzene	127	80-120	S	%REC	1	11/7/2014 10:40:10 AM	R22405

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-12 SP-2

Project: Trunk K #7

Collection Date: 11/6/2014 10:31:00 AM

Lab ID: 1411263-012

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2014 12:16:08 PM	16286
Surr: DNOP	83.9	63.5-128		%REC	1	11/7/2014 12:16:08 PM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	11/7/2014 11:07:36 AM	R22405
Surr: BFB	97.6	80-120		%REC	1	11/7/2014 11:07:36 AM	R22405
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.039		mg/Kg	1	11/7/2014 11:07:36 AM	R22405
Toluene	ND	0.039		mg/Kg	1	11/7/2014 11:07:36 AM	R22405
Ethylbenzene	ND	0.039		mg/Kg	1	11/7/2014 11:07:36 AM	R22405
Xylenes, Total	ND	0.078		mg/Kg	1	11/7/2014 11:07:36 AM	R22405
Surr: 4-Bromofluorobenzene	124	80-120	S	%REC	1	11/7/2014 11:07:36 AM	R22405

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-13 SP-3

Project: Trunk K #7

Collection Date: 11/6/2014 10:35:00 AM

Lab ID: 1411263-013

Matrix: MEOH (SOIL)

Received Date: 11/7/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/7/2014 12:37:47 PM	16286
Surr: DNOP	88.1	63.5-128		%REC	1	11/7/2014 12:37:47 PM	16286
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	11/7/2014 11:35:02 AM	R22405
Surr: BFB	98.3	80-120		%REC	1	11/7/2014 11:35:02 AM	R22405
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.039		mg/Kg	1	11/7/2014 11:35:02 AM	R22405
Toluene	ND	0.039		mg/Kg	1	11/7/2014 11:35:02 AM	R22405
Ethylbenzene	ND	0.039		mg/Kg	1	11/7/2014 11:35:02 AM	R22405
Xylenes, Total	ND	0.077		mg/Kg	1	11/7/2014 11:35:02 AM	R22405
Surr: 4-Bromofluorobenzene	122	80-120	S	%REC	1	11/7/2014 11:35:02 AM	R22405

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411263

10-Nov-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #7

Sample ID <b>MB-16286</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>16286</b>		RunNo: <b>22398</b>							
Prep Date: <b>11/7/2014</b>	Analysis Date: <b>11/7/2014</b>		SeqNo: <b>660175</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	10		10.00		104	63.5	128			

Sample ID <b>LCS-16286</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>16286</b>		RunNo: <b>22398</b>							
Prep Date: <b>11/7/2014</b>	Analysis Date: <b>11/7/2014</b>		SeqNo: <b>660176</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.5	68.6	130			
Surr: DNOP	4.6		5.000		92.5	63.5	128			

Sample ID <b>1411263-001AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>SC-1 NW Wall</b>	Batch ID: <b>16286</b>		RunNo: <b>22401</b>							
Prep Date: <b>11/7/2014</b>	Analysis Date: <b>11/7/2014</b>		SeqNo: <b>660245</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.8	49.21	0	96.2	29.2	176			
Surr: DNOP	4.3		4.921		87.5	63.5	128			

Sample ID <b>1411263-001AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>SC-1 NW Wall</b>	Batch ID: <b>16286</b>		RunNo: <b>22401</b>							
Prep Date: <b>11/7/2014</b>	Analysis Date: <b>11/7/2014</b>		SeqNo: <b>661003</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.8	49.07	0	97.0	29.2	176	0.519	23	
Surr: DNOP	4.3		4.907		87.6	63.5	128	0	0	

**Qualifiers:**

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411263

10-Nov-14

Client: Souder, Miller and Associates

Project: Trunk K #7

Sample ID	<b>MB-16279 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R22407</b>	RunNo:	<b>22407</b>					
Prep Date:		Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660420</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		90.3	80	120			

Sample ID	<b>LCS-16279 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R22407</b>	RunNo:	<b>22407</b>					
Prep Date:		Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660421</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	65.8	139			
Surr: BFB	980		1000		98.1	80	120			

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R22405</b>	RunNo:	<b>22405</b>					
Prep Date:		Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660539</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		88.4	80	120			

Sample ID	<b>2.5UG GRO LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R22405</b>	RunNo:	<b>22405</b>					
Prep Date:		Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660540</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.3	65.8	139			
Surr: BFB	920		1000		92.1	80	120			

Sample ID	<b>1411263-011AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>SC-11 SP-1</b>	Batch ID:	<b>R22405</b>	RunNo:	<b>22405</b>					
Prep Date:		Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660541</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	18	3.9	19.53	0	89.6	71.8	132			
Surr: BFB	800		781.3		102	80	120			

Sample ID	<b>1411263-011AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>SC-11 SP-1</b>	Batch ID:	<b>R22405</b>	RunNo:	<b>22405</b>					
Prep Date:		Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660542</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	18	3.9	19.53	0	89.6	71.8	132			
Surr: BFB	800		781.3		102	80	120			

**Qualifiers:**

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- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
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- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1411263

10-Nov-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #7

Sample ID	1411263-011AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-11 SP-1	Batch ID:	R22405	RunNo:	22405					
Prep Date:		Analysis Date:	11/7/2014	SeqNo:	660542	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	17	3.9	19.53	0	89.4	71.8	132	0.268	20	
Surr: BFB	820		781.3		105	80	120	0	0	

### Qualifiers:

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- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1411263

10-Nov-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #7

Sample ID	<b>MB-16279 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R22407</b>	RunNo:	<b>22407</b>					
Prep Date:		Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660504</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.94		1.000		94.5	80	120			

Sample ID	<b>LCS-16279 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R22407</b>	RunNo:	<b>22407</b>					
Prep Date:		Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660505</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.050	1.000	0	95.4	80	120			
Toluene	0.96	0.050	1.000	0	96.3	80	120			
Ethylbenzene	0.98	0.050	1.000	0	98.3	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.9	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.5	80	120			

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R22405</b>	RunNo:	<b>22405</b>					
Prep Date:		Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660558</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID	<b>100NG BTEX LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R22405</b>	RunNo:	<b>22405</b>					
Prep Date:		Analysis Date:	<b>11/7/2014</b>	SeqNo:	<b>660559</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	112	80	120			
Toluene	1.2	0.050	1.000	0	115	80	120			
Ethylbenzene	1.2	0.050	1.000	0	116	80	120			
Xylenes, Total	3.5	0.10	3.000	0	117	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1411263

10-Nov-14

**Client:** Souder, Miller and Associates

**Project:** Trunk K #7

Sample ID	1411263-012AMS		SampType: MS	TestCode: EPA Method 8021B: Volatiles						
Client ID:	SC-12 SP-2		Batch ID: R22405	RunNo: 22405						
Prep Date:			Analysis Date: 11/7/2014	SeqNo: 660560	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.039	0.7752	0	106	77.4	142			
Toluene	0.87	0.039	0.7752	0.007287	111	77	132			
Ethylbenzene	0.93	0.039	0.7752	0	120	77.6	134			
Xylenes, Total	2.8	0.078	2.326	0.01698	121	77.4	132			
Surr: 4-Bromofluorobenzene	1.0		0.7752		129	80	120			S

Sample ID	1411263-012AMSD		SampType: MSD	TestCode: EPA Method 8021B: Volatiles						
Client ID:	SC-12 SP-2		Batch ID: R22405	RunNo: 22405						
Prep Date:			Analysis Date: 11/7/2014	SeqNo: 660561	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.81	0.039	0.7752	0	104	77.4	142	2.04	20	
Toluene	0.84	0.039	0.7752	0.007287	108	77	132	2.93	20	
Ethylbenzene	0.91	0.039	0.7752	0	118	77.6	134	1.45	20	
Xylenes, Total	2.8	0.078	2.326	0.01698	120	77.4	132	1.18	20	
Surr: 4-Bromofluorobenzene	1.0		0.7752		130	80	120	0	0	S

**Qualifiers:**

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- R RPD outside accepted recovery limits
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- B Analyte detected in the associated Method Blank
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- P Sample pH greater than 2.
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1411263

RcptNo: 1

Received by/date:	<i>[Signature]</i>	11/07/14	
Logged By:	Lindsay Mangin	11/7/2014 7:00:00 AM	<i>[Signature]</i>
Completed By:	Lindsay Mangin	11/7/2014 7:27:47 AM	<i>[Signature]</i>
Reviewed By:	<i>[Signature]</i>	11/7/14	

**Chain of Custody**

- Custody seals intact on sample bottles? Yes  No  Not Present
- Is Chain of Custody complete? Yes  No  Not Present
- How was the sample delivered? Courier

**Log In**

- Was an attempt made to cool the samples? Yes  No  NA
- Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- Sample(s) in proper container(s)? Yes  No
- Sufficient sample volume for indicated test(s)? Yes  No
- Are samples (except VOA and ONG) properly preserved? Yes  No
- Was preservative added to bottles? Yes  No  NA
- VOA vials have zero headspace? Yes  No  No VOA Vials
- Were any sample containers received broken? Yes  No
- Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes  No
- Are matrices correctly identified on Chain of Custody? Yes  No
- Is it clear what analyses were requested? Yes  No
- Were all holding times able to be met? (If no, notify customer for authorization.) Yes  No

# of preserved bottles checked for pH: _____
( <2 or >12 unless noted )
Adjusted? _____
Checked by: _____

**Special Handling (if applicable)**

- 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	1.3	Good	Yes			

# Chain-of-Custody Record

Client: SMA

Turn-Around Time:

Standard  Rush Some Day

Mailing Address: A01 W Broadway

Project Name: Trunk K #7

Farmington, NM, 87401

Project #: 6122855 BG

Phone #: 505 325 7535

Project Manager: Steve Miskal

Email or Fax#: Steve.Miskal@soudonillr.com

QA/QC Package:

Standard  Level 4 (Full Validation)

Accreditation

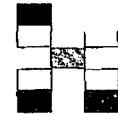
NELAP  Other \_\_\_\_\_

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

Sampler: J. Sprague

On Ice:  Yes  No

Sample Temperature: 1.3



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No	BTEX (METH + TMB's) (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO/DRO) (8021)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
6/14	1061	soil	SC-1 NW wall	1 4oz kil	Meth	1411263 -001	X		X									
	1003		SC-2 NC wall			-002	X		X									
	1005		SC-3 NE wall			-003	X		X									
	1009		SC-4 SW wall			-004	X		X									
	1011		SC-5 SE wall			-005	X		X									
	1015		SC-6 SE wall			-006	X		X									
	1018		SC-7 E wall			-007	X		X									
	1021		SC-8 W wall			-008	X		X									
	1023		SC-9 E base			-009	X		X									
	1026		SC-10 W base			-010	X		X									
	1029		SC-11 SP-1			-011	X		X									
	1031		SC-12 SP-2			-012	X		X									

Date: 6/14 Time: 1515 Relinquished by: J. Sprague

Received by: Christie W... Date: 11/6/14 Time: 1515

Date: 6/14 Time: 1700 Relinquished by: Christie W...

Received by: [Signature] Date: 11/07/14 Time: 0700

Remarks: Invoice Enterprise  
Please copy Jesse Sprague @ soudonillr.com  
Alicia Patterson @ soudonillr.com

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 D**  
**Groundwater Investigation Plan**



October 23, 2014

#5122855

Mr. Tom Long  
Senior Environmental Scientist  
Enterprise Products  
614 Reilly Ave  
Farmington, NM 87401

**RE: WORK PLAN FOR THE INVESTIGATION OF GROUNDWATER CONTAMINATION AT THE TRUNK K #3 PIPELINE RELEASE SITE, SAN JUAN COUNTY, NEW MEXICO**

Dear Mr. Long:

Souder, Miller & Associates (SMA) is pleased to submit this work plan for initial investigation of groundwater contamination at the Trunk K #3 pipeline release site. The site is located in Unit H (SE ¼ NE ¼ Section 26 Township 27 North, Range 8 West, 36.545423°, -107.645017° San Juan County, New Mexico land managed by the US Bureau of Land Management. The release was discovered on September 1, 2014 and is a result of internal corrosion of the sixteen inch natural gas pipeline.

The enclosed work plan provides a scope of work for the drilling, installation and monitoring of potentially four monitoring wells at the subject site. The proposed wells are to be installed within accordance of the request by the New Mexico Oil Conservation Division to determine if groundwater impacts exist at the release site. This work plan also serves to provide information on the project location, duration and terms of access to the site during the implementation and potential continued monitoring program.

If you have any additional questions, please do not hesitate to call our office at 505-325-7535.

Sincerely,

SOUDER, MILLER & ASSOCIATES

A handwritten signature in black ink, appearing to read 'Steve Moskal', written over a light blue circular stamp.

Steve Moskal  
Project Scientist

A handwritten signature in black ink, appearing to read 'Reid S. Allan', written over a light blue circular stamp.

Reid S. Allan, P.G.  
Vice President/Principal Scientist



**GROUNDWATER INVESTIGATION PLAN  
TRUNK K 16" NATURAL GAS PIPELINE RELEASE**

**UNIT H, SECTION 26, TOWNSHIP 27 NORTH, RANGE 8 WEST,  
36.545423°, -107.645017°  
SAN JUAN COUNTY, NEW MEXICO**

**October 23, 2014**

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this groundwater investigation work plan to describe the drilling of groundwater monitoring wells for a hydrocarbon release associated with the 16-inch pipeline release located at the Trunk K #3 natural gas pipeline excavation site. The wells are intended to complete the groundwater impact investigation requested by the New Mexico Oil Conservation Division (OCD). OCD has required that this investigation be completed within 30 days of the completion of excavation and backfill activities. These activities were completed on October 21, 2014. Expected completion of the monitoring well drilling is November 21, 2014.

The Trunk K #3 release was discovered simultaneously with 5 other leaks locations on the Trunk K Pipeline, all associated with internal pipeline corrosion. An unknown amount of natural gas and liquids/condensate was released. The release was confirmed during a pipeline patrol using a gas detector on September 1, 2014. The Trunk K #3 Pipeline release is located in (SE ¼ / NE ¼) Unit H, Section 26, Township 27 North, Range 8 West, 36.545423°, -107.645017°, San Juan County, New Mexico. Figure 1, Vicinity Map, illustrates the general location of the release.

**New Mexico Oil Conservation Division Site Ranking**

The release site is located along the south bank of Largo Canyon Wash on land managed by the Bureau of Land Management (BLM) with an elevation of approximately 5,955 feet above sea level. During the excavation for pipeline repairs and remedial activities, it was determined that depth to groundwater is approximately 20 feet below ground surface (bgs).

SMA searched the New Mexico Office of the State Engineer's (OSE) online water well data base for water wells in the vicinity of the release. No recorded wells were located within 1,000 feet of the site. One well was located within a 1 mile radius of the site. There is no anticipated impact to this well.

The physical location of this release is within the jurisdiction of the BLM and OCD. This release location has been assigned a NMOCD ranking of 40, which requires soil remediation standards of 10 parts per million (ppm) benzene, 50 ppm total benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 100 ppm total petroleum hydrocarbons (TPH). Table 1 illustrates site ranking rationale.

### **Executed Remediation Activities**

On August 20, 2014, a leak on the Trunk K Pipeline was reported to the BLM by a private party. In an effort to identify the leak location, Enterprise contracted a third party to patrol the pipeline right-of-way (ROW) to determine the locations of other suspected leaks. Using an application specific gas detector the third party identified 5 additional leak locations. During this time, the BLM identified the location of the six pipeline releases to be potential cultural and riparian sensitive areas. A riparian clearance was granted by the BLM and an archeological study was performed by a third party consultant, Western Cultural Resource Management.

SMA began oversight of the excavations on August 28, 2014. During the excavation, soil samples were collected for field screening to determine the extent of the releases. Under the supervision and direction of SMA, Energy Maintenance Services (EMS) excavated and transported the hydrocarbon impacted soil for offsite disposal. The contaminated soil was transported to Envirotech Landfarm near Bloomfield, NM.

Samples were not collected from the base of the excavation, at approximately 20 feet below ground surface (bgs), due to elevated readings during field screening. Field screening was conducted using a properly calibrated photoionization detector (PID). Saturated soils were encountered at 20 feet bgs during the excavation, indicating hydrocarbon contamination in contact with the upper portion of the groundwater table.

### **Proposed Monitor Well Installations**

In order to determine groundwater impacts, OCD has requested Enterprise Products to execute an investigation to be completed within 30 days upon the completion of excavation and backfilling activities. Backfilling of the Trunk K #3 leak location was completed on October 21, 2014.

***Proposed Monitoring Well Locations:*** Drilling access is constricted to the 50 foot ROW. Therefore, SMA has determined that the installation of four monitoring wells is necessary in order to establish an accurate groundwater gradient and to better identify the extent of possible groundwater contamination at the Trunk K #3 site. All wells will be installed within the ROW; one well in the suspected upgradient direction, one near the source of the release and two in the suspected downgradient direction. A site map depicting the proposed well locations is included as Figure 2.

***Well Permits:*** SMA will obtain monitoring well permits on behalf of Enterprise Products from the OSE. OSE will issue the well permits once land owner approval has been demonstrated.

***Directions to Site and Vehicle Access:*** The Trunk K #3 site will be accessed by traveling south on San Juan County Road (CR) 4450 off of US Highway 64 for approximately 6.6 miles to merge with CR 4490. Remain on CR 4450/4990 for approximately 22.8 miles until CR 4990 intersects the Trunk K Pipeline. At the Trunk K Pipeline and CR 4990 intersection, vehicular traffic will travel northwest within the Trunk

K ROW for approximately 450 feet. All vehicular and operated machinery traffic will remain within the ROW. To prevent traffic outside the ROW, SMA will install visible markers delineating the ROW prior to the commencement of work. SMA estimates the working area of the monitoring well installation to be confined to approximately 200 feet within the Trunk K ROW, in the area of excavation disturbances. A site access map is attached as Figure 3.

SMA anticipates a total of four vehicles on site during the drilling activities. These vehicles will include a truck mounted drilling rig, a support truck and trailer, an Enterprise Products representative's vehicle and a SMA representative's vehicle. All other unanticipated vehicles will remain on the roadway. Personnel required for the drilling activities will include up to a three man drilling crew, one enterprise representative and one SMA representative.

**Drilling Approach and Well Completion:** Drilling and well installations will be performed by a New Mexico licensed driller with and appropriate sized drilling rig, tentatively a CME 75 or similar. No soil samples will be collected during drilling activities as the majority of the impacted soil has been excavated, transported off site for disposal and replaced with clean backfill material.

The wells will be constructed with 2-inch diameter PVC threaded pipe, specifically manufactured for monitoring well construction. Well screens will be factory slotted with a 0.010 inch slot width. A well completion diagram is included as Figure 4. The wells will be installed to a maximum depth of 32 feet bgs and will be constructed as follows:

**Proposed Monitor Well Completion Table**

Interval (feet bgs)	2" PVC Well Casing Description	Annulus Completion Description
32-30	2' Sediment Sump (Blank w/cap)	10/20 Coarse Grain Silica Sand
30-15	0.010" Slotted Screen Interval	
15-13	Blank (solid pipe)	20/40 Fine Grained Silica Sand
13-1		Cement/Bentonite/Grout Slurry
1-0		Cement/Concrete Well Pad

The wells will be completed with an aboveground steel well shroud cemented into a 4 feet square pad with a minimum thickness of 4-inches. Each well will also be fitted with 3 protective bollards to prevent damage from vehicle collisions, livestock or wildlife. Once approved by all agencies, SMA estimates that the well installation, development and sampling will be completed within 3 full working days. Upon completion of field activities, the disturbed area will be reseeded with a BLM approved seed mixture during the next favorable growing season.

**Well Development and Sampling:** Once installed, the monitoring wells will be developed by purging a minimum of three well columns of water and field screening for pH, conductivity and temperature become relatively stable and turbidity is reduced as much as possible. All purge water will be collected and containerized for offsite disposal at an approved facility. Once development is complete, SMA will collect samples for laboratory analysis via EPA Method 8021 for benzene, toluene,

ethylbenzene and xylenes (BTEX), as required by OCD following New Mexico Water Quality Control Commission (WQCC) standards below:

WQCC/OCD Groundwater Quality Standards	
Benzene	0.01 mg/l
Toluene	0.75 mg/l
Ethylbenzene	0.75 mg/l
Total Xylenes	0.62 mg/l

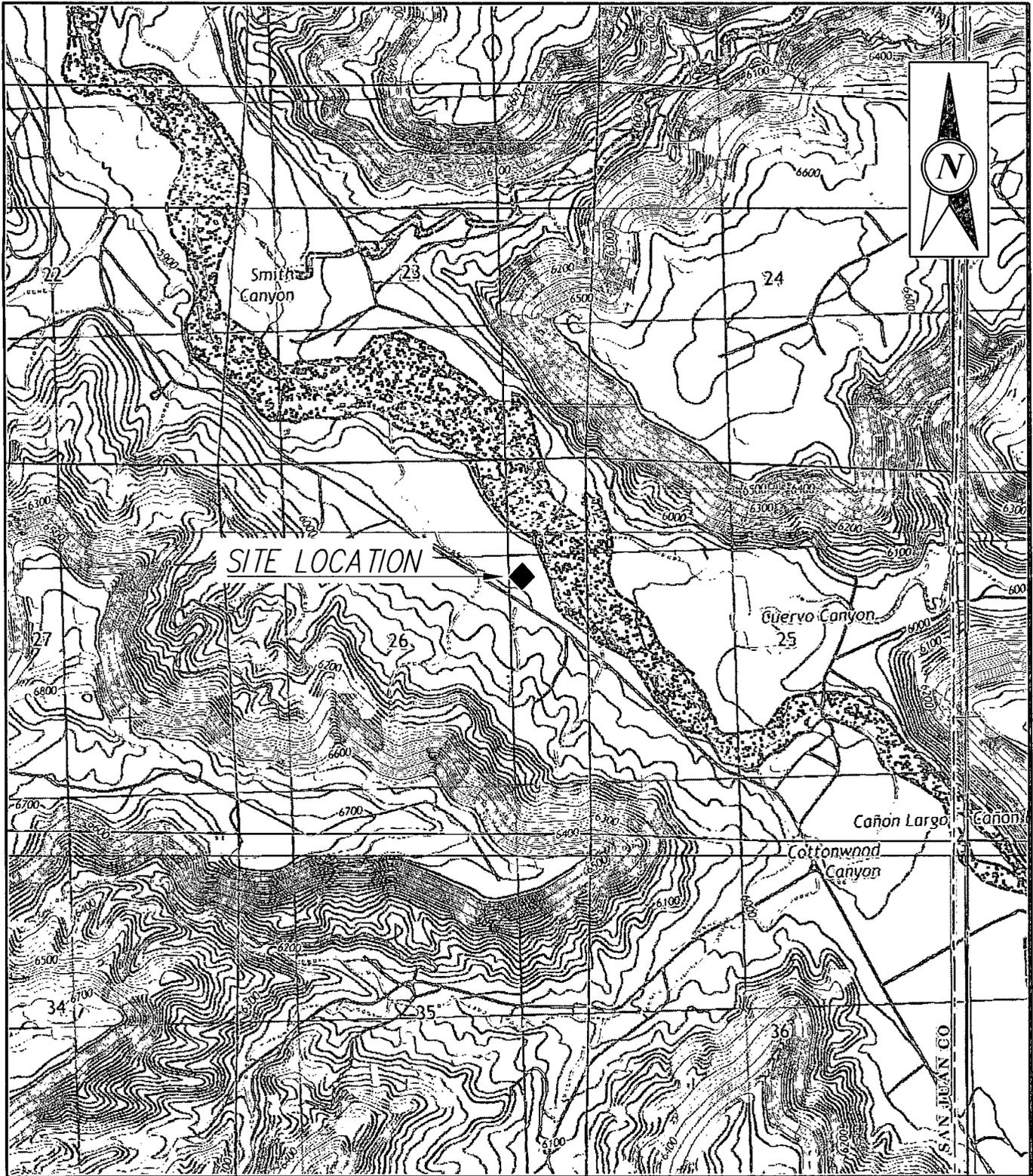
It is anticipated that well development and sampling activities will require up to two SMA representatives using one vehicle, and one Enterprise representative in a separate vehicle. Transportation of the collected purge water will be conducted by a contracted party who will pick up the labeled containers from the work site upon receipt of the laboratory results of the water samples.

In the event that groundwater contaminant concentrations exceed the OCD/WQCC standards, quarterly sampling will be conducted in the same manner every three months for a minimum of 2 years, or longer if necessary to meet the requirements of the OCD.

At the end of the potential two years of quarterly groundwater monitoring, if sample analysis indicates contaminant concentrations exceed the OCD/WQCC standards, additional remediation techniques will be developed and proposed for approval by the OCD and BLM prior to implementation.

**Plugging and Abandonment Activities:** During the initial sampling event, if groundwater contaminant concentrations are below the OCD/WQCC standards, the wells will be plugged and abandoned. Otherwise, the wells will remain in place until contaminant concentrations are below OCD/WQCC standards until site closure is approved by the OCD. In any scenario, the wells will be abandoned in accordance to the approved Plugging and Abandonment Plan submitted to the OSE within the monitoring well permit package. If necessary, any disturbed area will be reseeded with a BLM approved seed mixture during the next favorable growing season.

It is anticipated that plugging and abandonment activities will require the same number of vehicles and personnel as mentioned in the "Drilling Approach and Well Completion" section.



SITE LOCATION

SCALE



**SOUDER, MILLER & ASSOCIATES**  
 401 West Broadway Avenue  
 Farmington, NM 87401-5907  
 Phone (505) 322-7535 Toll-free (800) 519-0998 Fax (505) 326-0045  
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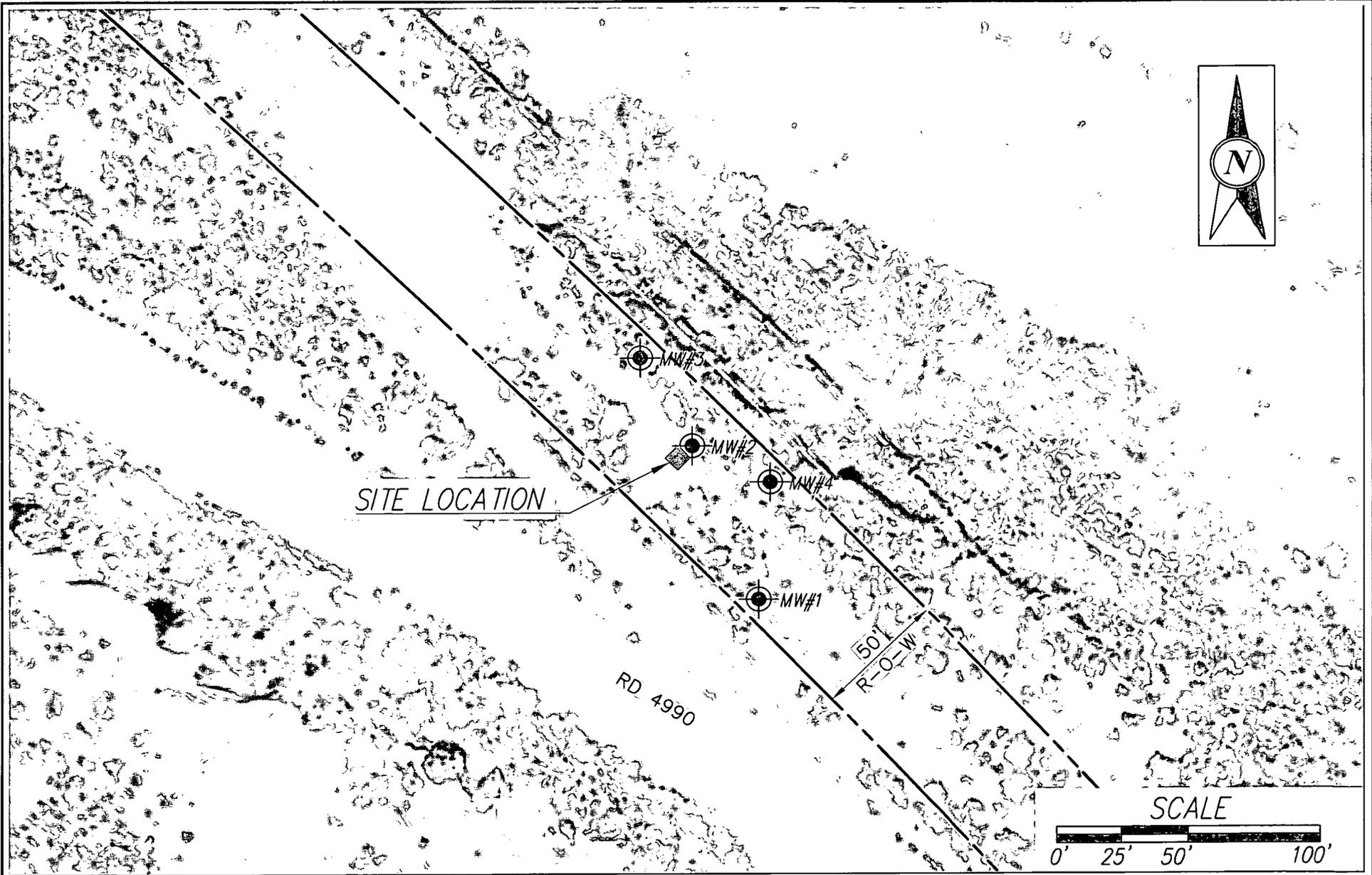
ENTERPRISE FARMINGTON, NEW MEXICO

VICINITY MAP  
 TRUNK K #3  
 SECTION 26, T27N, R8W

Designed SM	Drawn DJB	Checked RSA
Date: 10/22/14		
Scale: Horiz: 1"=2000'		
Vert: N/A		
Project No: 5122855		
Sheet: 1		

SAN JUAN COUNTY, NEW MEXICO

ALL DRAWINGS COMPLETE AND ADAPTED TO FIELD FOR CONSTRUCTION UNLESS OTHERWISE STATED, SIGNED AND DATED



 <b>SMA</b> Engineering Environmental Surveying	<b>SOUDER, MILLER &amp; ASSOCIATES</b> 401 W. BROADWAY FARMINGTON, NM 87401 Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 325-0045 www.soudermiller.com Serving the Southwest & Rocky Mountains Albuquerque, Farmington, Las Cruces, Roswell, Santa Fe, NM - Ft. Worth, TX Coraz - Grand Junction - Montrose, CO - Saltford, AZ - Moab, UT	ENTERPRISE FARMINGTON, NEW MEXICO	Designed SM Drawn DJB Checked RSA Date: 10/22/14 Scale: Horiz: 1"=50' Vert: N/A Project No: 5122855 Sheet: 2
	<b>PROPOSED MONITORING WELL LOCATION MAP</b> <b>TRUNK K #3</b> <b>SECTION 26, T27N, R8W</b>		
	SAN JUAN COUNTY, NEW MEXICO		



SITE LOCATION

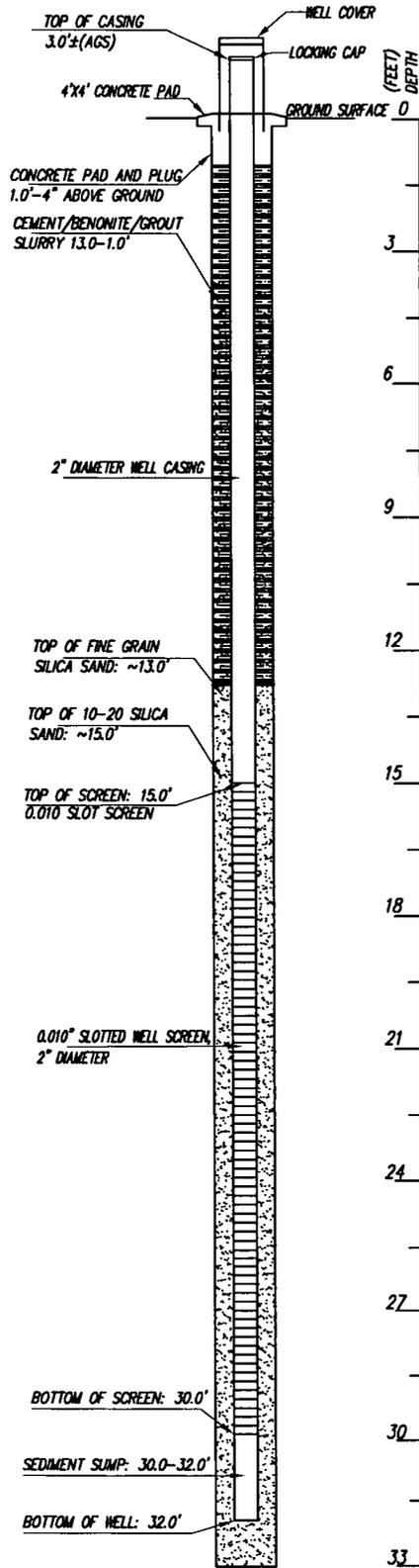
RD 4990

PROPOSED ACCESS ROUTE



 <b>Engineering Environmental Surveying</b>	<b>SOUDER, MILLER &amp; ASSOCIATES</b> 401 W. BROADWAY FARMINGTON, NM 87401 Phone (505) 325-7535 Toll-Free (800) 519-4098 Fax (505) 325-0045 www.soudermiller.com Serving the Southwest & Rocky Mountains Albuquerque, Farmington, Las Cruces, Roswell, Santa Fe, NM - Ft. Worth, TX Cortez - Grand Junction - Montrose, CO - Safford, AZ - Moab, UT	ENTERPRISE  FARMINGTON, NEW MEXICO  <b>PROPOSED ACCESS ROUTE MAP</b> <b>TRUNK K #3</b> <b>SECTION 26, T27N, R8W</b>	SAN JUAN COUNTY, NEW MEXICO	Designed SM	Drawn DJB	Checked RSA
	Date: 10/22/14					
	Scale: Horiz: 1"=80' Vert: N/A					
	Project No: 5122855					
	Sheet: 3					

**PROPOSED WELL COMPLETION DIAGRAM**



DRILLER: T.B.D.  
 DATE COMPLETED: N/A  
 BOREHOLE DIAMETER: 6-8" O.D.  
 DRILLING METHOD: HOLLOW STEM AUGER  
 TOTAL BORING DEPTH: ~33 FT.  
 LOGGED BY: T.B.D.

 <p><b>SMA</b> Engineering Environmental Surveying</p>	<p><b>SOUDER, MILLER &amp; ASSOCIATES</b>                  401 West Broadway Avenue                  Farmington, NM 87401-3907                  Phone (505) 325-7315 Toll-Free (800) 519-0098 Fax (505) 326-0045                  www.soudermiller.com                  Serving the Southwest &amp; Rocky Mountains                  Albuquerque, Carlsbad, Farmington, Las Cruces, Roswell, Santa Fe, NM - El Paso, TX                  Cortez - Grand Junction - Montrose, CO - Salt Lake City, UT</p>		<p>ENTERPRISE FARMINGTON, NEW MEXICO</p>		<p>Designed SM</p>	<p>Drawn GJF</p>	<p>Checked RSA</p>
	<p><b>PROPOSED MONITORING WELL                  COMPLETION DIAGRAM                  TRUNK K #3</b></p>						
	<p>Date: 10/22/2014</p>						
	<p>Scale: Horiz: NA                  Vert: NA</p>						
	<p>Project No: 5122855</p>						
<p>Sheet: 4</p>							

**Appendix E**  
**Cultural Survey Study (WCRM)**



Western Cultural Resource Management, Inc.

October 3, 2014

Mr. Steve Moskal  
Souder, Miller, and Associates  
2101 San Juan Blvd.  
Farmington, NM 87401

Dear Steve:

As requested, the client copy of our report on the archaeological survey of the proposed Enterprise Products Company Trunk K pipeline repair locations 1-6 and access road has been submitted electronically to you. During the survey, six newly discovered archaeological sites and four isolated occurrences were encountered. These are discussed in the Results and Conclusions and Recommendations sections of the report.

Cultural resource approval for this undertaking to proceed is recommended with stipulations. The agency copies of the report have been submitted to the New Mexico State Land Office and 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-FFO  
David Eck, NMSLO  
Tom Long, Enterprise Products Company (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

Project No. 14F111  
NMCRIS No. 131697  
Report No. WCRM(F)1339

BLM Cultural Resource Use Permit No.  
25-2920-12-NN

Cultural Resource Inventory of Enterprise Products Company  
Trunk K Pipeline Repair Locations 1-6 and Access Road,  
San Juan County, New Mexico

for

Souder, Miller, and Associates

by

Michael J. Proper and Cindy J. Bunker

submitted by

Western Cultural Resource Management, Inc.  
2603 W. Main St., Ste. B  
Farmington, New Mexico 87401

Thomas J. Lennon, Principal Investigator

submitted to

Bureau of Land Management  
Farmington Field Office  
6251 College Blvd., Ste. A  
Farmington, New Mexico 87402

October 3, 2014

## ABSTRACT

Between August 28 and September 15, 2014, Western Cultural Resource Management, Inc., conducted a Class III inventory of the proposed Trunk K Pipeline Repair Locations 1-6 and an access road for Enterprise Products Company, LLC. The project area is located in San Juan County, New Mexico on land under the jurisdiction of the Bureau of Land Management, Farmington Field Office (BLM-FFO) and the New Mexico State Land Office (NMSLO). An area of 30.35 acres was intensively inventoried (30.28 acres, BLM; 0.07 acres, NMSLO).

Six newly recorded sites (LA 180207, LA 180208, LA 180209, LA 180210, LA 180211, and LA 180212) and four isolated occurrences (IOs) were documented. The IOs represent nonsignificant resources, and no further work is recommended for them. All six sites are recommended eligible for the National Register of Historic Places. Of the six sites two require protective measures, LA 180207 and LA 180209. As stipulated by BLM-FFO (personal communication with James M. Copeland) to protect site LA 180207, all vehicular travel must be restricted to the existing right-of-way and no excavation will be conducted within the site boundary. A fence and monitoring is required for the protection of LA 180209. With these stipulations, cultural resource approval for the undertaking to proceed is recommended.

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## INTRODUCTION

At the request of Steve Moskal of Souder, Miller, and Associates, LP (SMA), Western Cultural Resource Management, Inc. (WCRM), performed a Class III inventory of the Enterprise Products Company, LLC (Enterprise), Trunk K Pipeline Repair Locations 1-6 and associated access road. Charles W. Wheeler administered the project for WCRM. Eighty-two person-hours were expended on fieldwork conducted between August 28 and September 15, 2014. The project area is located on land administered by the Bureau of Land Management, Farmington Field Office (BLM-FFO) and the New Mexico State Land Office (NMSLO) in San Juan County, New Mexico (Figures 1 and 2). An area of 30.35 acres were examined (30.28 acres, BLM; 0.07 acres, NMSLO).

The cultural resource inventory was performed in light of the mandates for protection of archaeological resources on public land and for publicly funded or permitted projects. These mandates are put forth in the Antiquities Act of 1906, the National Historic Preservation Act of 1966 (as amended), the National Environmental Policy Act of 1969, the Archaeological and Historic Preservation Act of 1974, the Archaeological Resources Protection Act of 1979, the National Trails System Act (NTSA) of 1968, PL 90-543, and BLM Manual 6280. This project is under the jurisdiction of both federal and state agencies. The project was conducted under BLM Cultural Resource Use Permit No. 25-2920-12-NN, and New Mexico General Archaeological Permit No. NM-14-062-S.

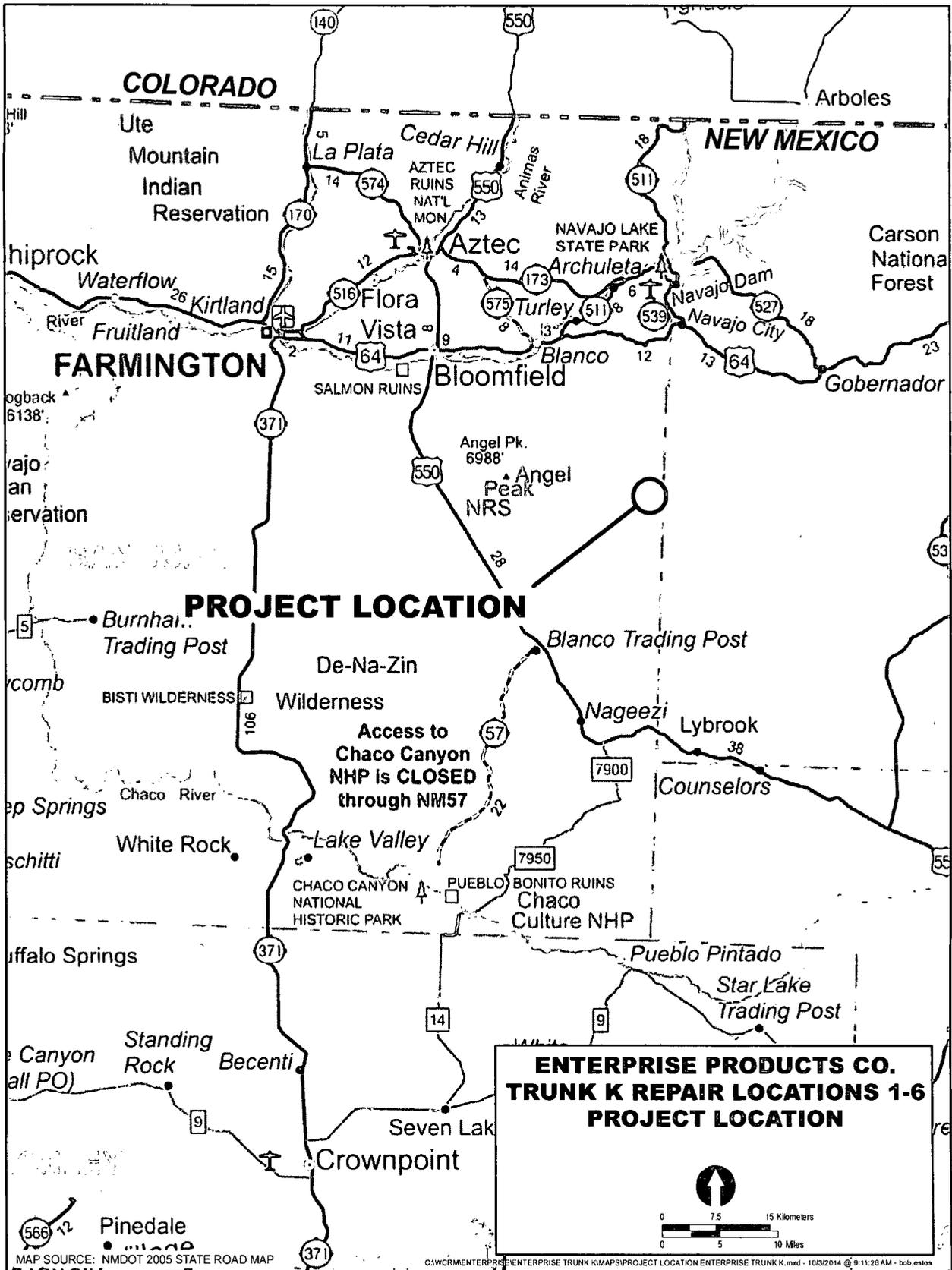
## PROJECT DESCRIPTION

Enterprise is in the process of repairing five locations along the Trunk K pipeline, all of which fall within the 7,683 ft long survey area. Each repair location will require the use of a 100 ft by 60 ft wide area.

Existing service roads will be used to access the pipeline right-of-way (ROW). The construction will consist of blading, trenching, and backfilling. Mechanical equipment will be used during all phases of construction.

Additional information for the project is presented below and in Appendix A. The project area reflects the 7,683 ft portion of the pipeline with a 60 ft ROW. A 50 ft cultural buffer zone was surveyed on each side of the ROW. The total area surveyed is 30.35 acres.

<b>Legal Location:</b>	NMPM, T27N, R8W Section 23 (template anchored on SE corner and southern section line) SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ , SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 25 (template anchored on SE corner and southern section line) S $\frac{1}{2}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ , NW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ , NE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ , S $\frac{1}{2}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ , NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 26 (template anchored on SE corner and southern section line) NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ , S $\frac{1}{2}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ , NW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ , SE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ , NW $\frac{1}{2}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 36 (template anchored to NE corner and north line) NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ San Juan County, New Mexico
<b>Map Source:</b>	USGS 7.5' Fresno Canyon, NM 1985 (provisional edition) Code: 36107-E1
<b>Project Area:</b>	500 x 60 ft (pipeline ROW) 0.69 acre
<b>Surveyed Area:</b>	30.35 acres (as calculated in AutoCAD)

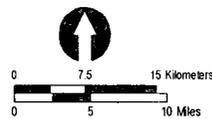


**COLORADO**

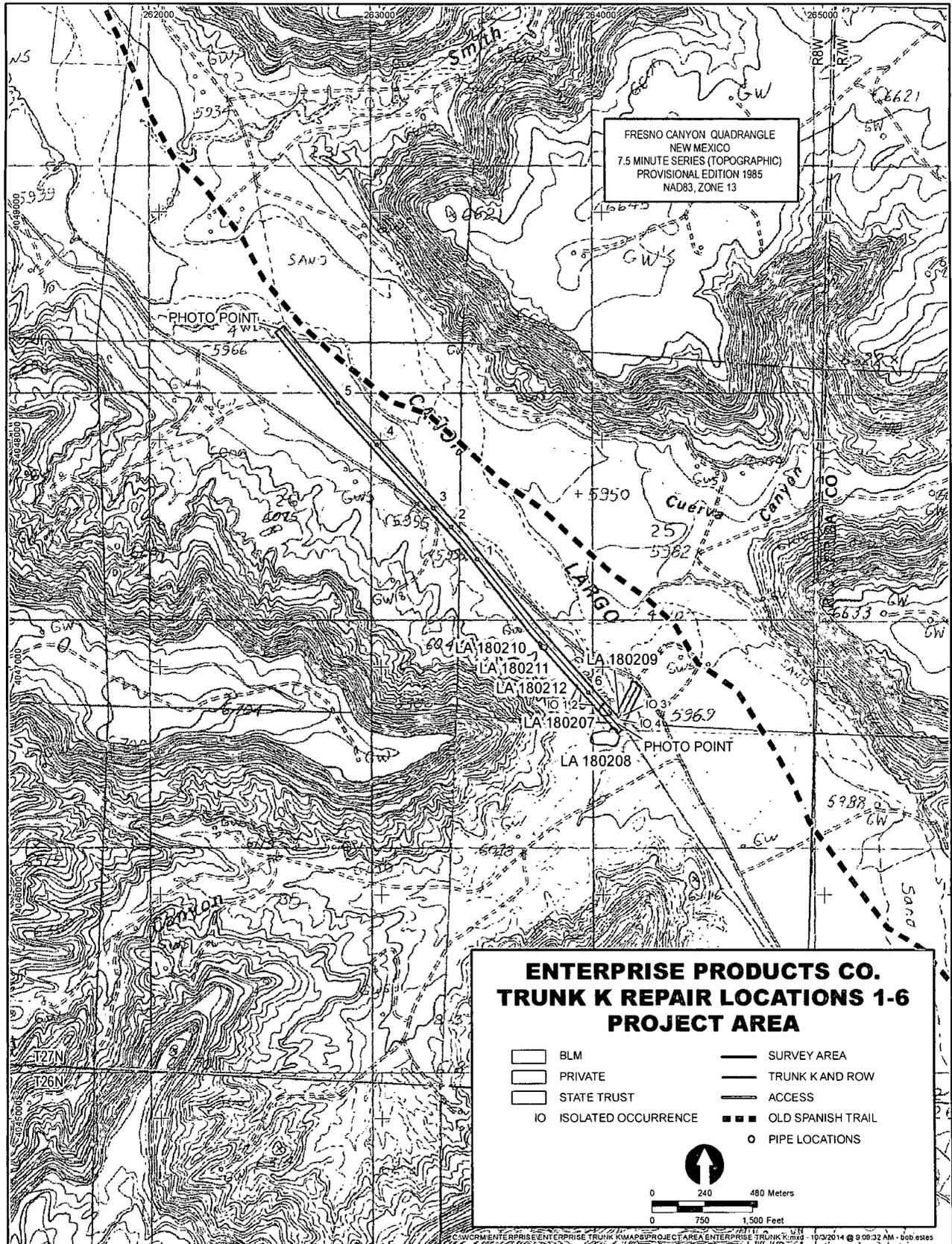
**NEW MEXICO**

**PROJECT LOCATION**

**ENTERPRISE PRODUCTS CO.  
TRUNK K REPAIR LOCATIONS 1-6  
PROJECT LOCATION**



Ute Mountain Indian Reservation  
 Aztec Ruins Nat'l Mon  
 Navajo Lake State Park  
 Navajo City  
 Bloomfield  
 Chaco Canyon National Historic Park  
 Chaco Culture NHP  
 De-Na-Zin Wilderness  
 Bisti Wilderness  
 Angel Peak NRS  
 Farmington  
 Aztec  
 Archuleta  
 Navajo Dam  
 Blanca  
 Turley  
 Flora Vista  
 Kirtland  
 Fruitland  
 Waterflow River  
 Salmon Ruins  
 Burnham Trading Post  
 Blanco Trading Post  
 Nageezi  
 Lybrook  
 Counselors  
 Pueblo Pintado  
 Star Lake Trading Post  
 Standing Rock  
 Becenti  
 Crownpoint  
 Pinedale  
 Pinedale



## **ENVIRONMENTAL SETTING**

This segment of the Trunk K pipeline is situated on the west side of Largo Canyon, between Cottonwood and Onofre Jaquez canyons. Elevation in the survey area ranges from 5940 to 6000 ft. The project area is located on a dissected terrace above the flood plain. Vegetation includes an overstory of cottonwood, tamarisk, and willows in the flood plain with a pinyon and juniper overstory on the terrace. The understory includes sagebrush, greasewood, snakeweed, blue grama grass, Indian ricegrass, Little blue stem grass, Russian thistle, wolfberry, four-wing saltbush, rabbitbrush, prickly pear cactus, and cholla. Sediment ranges from silt loam to sandy loam with gravel and rock inclusions. Energy development, woodcutting, and livestock grazing are activities currently taking place in the project area.

Native flora and fauna provided food, clothing, and raw materials for prehistoric inhabitants in the area. Nonfood resources included sandstone and quartzite cobbles and trees for construction material; quartzite, silicified wood, and chert for lithic tools; and clay for ceramic manufacture.

## **PREVIOUS RESEARCH**

Prior to field inspection, the archaeologists conducted an online search of the Archaeological Records Management Section (ARMS), and requested and received a records search at the BLM-FFO to determine in any sites had been recorded within 0.25 mi of the survey area. A search of the National Register of Historic Places (NRHP) and State Register of Cultural Properties was also conducted, and Van Valkenburgh (1974) was consulted. Results are expounded in Appendix B (for agency use only).

## **METHODS**

Pedestrian survey of the pipeline corridor was performed on August 28, 2014, by archaeologists Michael J. Proper and Virginia Foster who walked parallel transects spaced 50 ft apart. Weather was clear and hot. Ground visibility ranged from 30 to 50 percent. A cultural buffer zone of 50 ft was surveyed on both sides of the 7,683 x 60 ft pipeline ROW. Relevant waypoints were recorded in the field using a handheld global positioning system (GPS) unit accurate from 1 to 10 m.

When cultural material was encountered, it was pin flagged and the archaeologists began an intensive search of the area to locate other material. The archaeologists recorded all cultural remains potentially older than 50 years. Those that satisfied current BLM-FFO site standards were assigned site status. Other cultural remains were documented as isolated occurrences (IOs).

Michael J. Proper, Virginia Foster, and Cindy J. Bunker recorded sites LA 180207, LA 180208, LA 180209, LA 180210, LA 180211, and LA 180212 between September 2 and 4, 2014. A permanent datum consisting of a spike and tag was placed. The sites were documented on Laboratory of Anthropology Site Record forms, site boundaries were established, site maps were drawn, photographs were taken, and in-field artifact analysis was conducted. No artifacts were collected. The crew chief maintained field notes. Once the sites were recorded, all flagging was removed. On September 12, 2014, Michael J. Proper was present at the on-site that was held with Jim Copeland (BLM archaeologist) and representatives of Souder Miller & Associates and Enterprise Products. On September 15, 2014, Michael J. Proper returned to the project area to complete the tasks identified during the onsite.

## **RESULTS**

Survey resulted in the identification of six newly discovered sites (LA 180207, LA 180208, LA 180209, LA 180210, LA 180211, and LA 180212) and four IOs.

## Sites

**Site Number:** LA 180207 (Figure 3)

**Temporary Number:** 14F111-S1

**Cultural/Temporal Affiliation:** Anasazi/A.D. 700-900

**Site Type:** Habitation

**Site Size:**

**Dimensions:** 68 x 60 m

**How Determined:** GPS

**Area:** 3,078 m<sup>2</sup> (as calculated in AutoCAD)

**Site Description:** Site LA 180207 is an Anasazi habitation that was encountered during the cultural resource inventory of the Trunk K pipeline project. The site is situated on a bench above the Largo Canyon drainage, approximately 0.2 mi northwest of Cottonwood Canyon. Vegetation consists of a sparse overstory of juniper with an understory of sagebrush, blue grama grass, Russian thistle, greasewood, snakeweed, galleta grass, Indian ricegrass, wolfberry, prickly pear cactus, and cholla. Sediment is silt loam with gravel and rock inclusions.

LA 180207 is situated on a dissected bench on the west side of the canyon providing the site with an eastern exposure and excellent view of Largo Canyon. A major pipeline ROW has impacted the site.

**Condition:** Site LA 180207 is in fair condition. Energy development and livestock grazing are modern activities that take place in the site area.

**Expected Project Impacts:** Site LA 180207 has been impacted by the construction of three pipelines, although an undisturbed portion of the site is located west of the pipeline corridor. If management recommendations are followed, no project-related impact to the site is expected.

**Significance and National Register Eligibility:** Site LA 180207 is recommended eligible for the NRHP under criterion (d). The site retains integrity of location, setting, association, and materials. Integrity of design, feeling, and workmanship may be present but are not immediately apparent. The site contains potentially datable material, and the potential for buried cultural deposits. It retains the potential to provide additional information about Anasazi land use, settlement, and subsistence in the area.

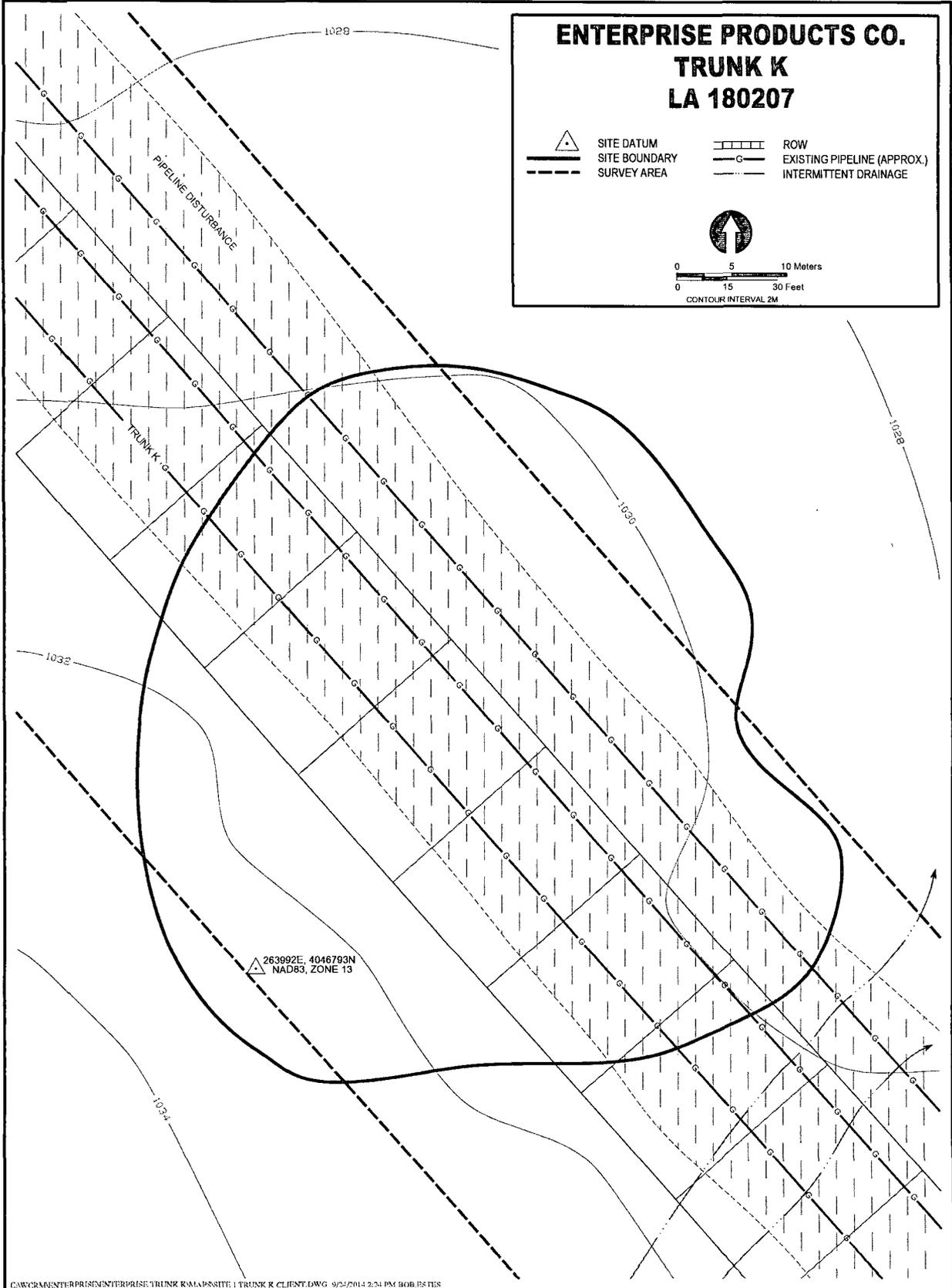
**Management Recommendations:** To protect LA 180207, BLM-FFO stipulated that all vehicular traffic be restricted to the existing ROW and no excavation conducted within the site boundary. An archaeological monitor will be present the first day of repairs and photos will be taken before, during, and after completion of the repairs.

# ENTERPRISE PRODUCTS CO. TRUNK K LA 180207

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li> SITE DATUM</li> <li> SITE BOUNDARY</li> <li> SURVEY AREA</li> </ul> | <ul style="list-style-type: none"> <li> ROW</li> <li> EXISTING PIPELINE (APPROX.)</li> <li> INTERMITTENT DRAINAGE</li> </ul> |
|---|--|



0      5      10 Meters  
0      15      30 Feet  
CONTOUR INTERVAL 2M



C:\WORK\ENTERPRISE\ENTERPRISE TRUNK K\LA180207\SITE 1 TRUNK K CLIENT.DWG 9/25/2014 2:51 PM BOB.BSTUS

*Handwritten signature or initials*

**Site Number:** LA 180208 (Figure 4)

**Temporary Number:** 14F111-S2

**Cultural/Temporal Affiliation:** Anasazi/A.D. 700-900

**Site Type:** Habitation

**Site Size:**

**Dimensions:** 140 x 90 m

**How Determined:** GPS

**Area:** 9,251 m<sup>2</sup> (as calculated in AutoCAD)

**Site Description:** Site LA 180208 is an Anasazi habitation that was encountered during the cultural resource inventory of the Trunk K pipeline project. The site is situated on a bench above Largo Canyon drainage, approximately 0.1 mi northwest of Cottonwood Canyon. Vegetation consists of a sparse overstory of juniper with an understory of sagebrush, blue grama grass, Russian thistle, greasewood, snakeweed, galleta grass, Indian ricegrass, unidentified native grasses, wolfberry, prickly pear cactus, and cholla. Sediment is silt loam with gravel and rock inclusions.

LA 180208 is on a dissected bench on the west side of the canyon providing the site with an eastern exposure and excellent view of Largo Canyon. The bench has a gentle northeast slope with gullies and rills exposing a dark brown, silt clay loam layer with orthoquartzite and fragments of coarse-grained sandstone (red to rust color) eroding from the layer and accumulating in the shallow drainages. A major pipeline ROW is adjacent to the eastern site boundary.

**Condition:** Site LA 180208 is in fair condition. Energy development and livestock grazing are modern activities that take place in the site area.

**Expected Project Impacts:** Site LA 180208 is located in the cultural buffer zone southwest of the proposed construction. If management recommendations are followed, no project-related impact to the site is expected.

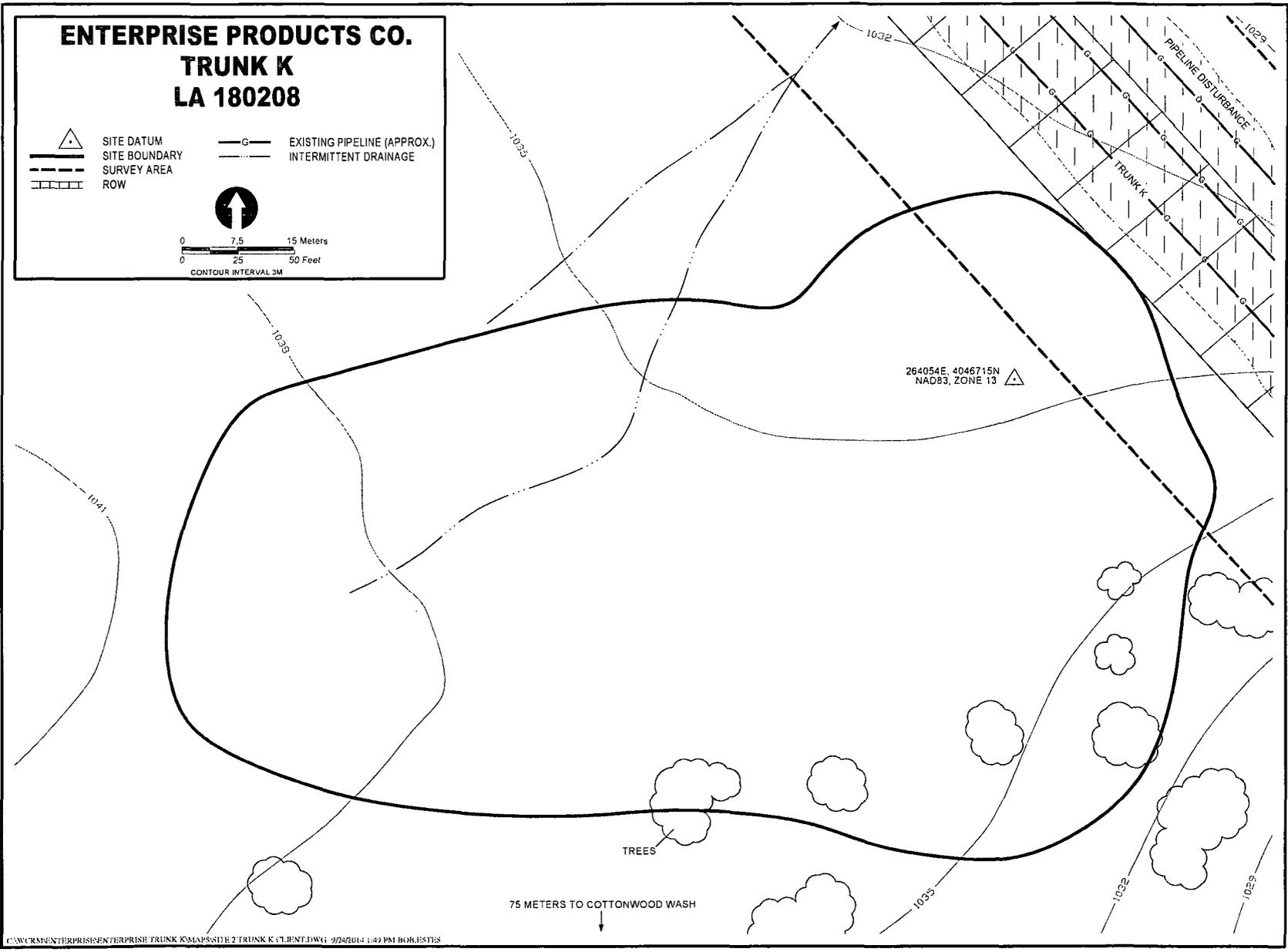
**Significance and National Register Eligibility:** Site LA 180208 is recommended eligible for the NRHP under criterion (d). The site retains integrity of location, setting, association, and materials. Integrity of design, feeling, and workmanship may be present but not immediately apparent. The site contains potentially datable material, and the potential for buried cultural deposits. It retains the potential to provide additional information about Anasazi land use, settlement, and subsistence in the area.

**Management Recommendations:** No further work is recommended for this site.

**ENTERPRISE PRODUCTS CO.  
TRUNK K  
LA 180208**

	SITE DATUM		EXISTING PIPELINE (APPROX.)
	SITE BOUNDARY		INTERMITTENT DRAINAGE
	SURVEY AREA		
	ROW		

  
 0 7.5 15 Meters  
 0 25 50 Feet  
 CONTOUR INTERVAL 3M



**Site Number:** LA 180209 (Figure 5)

**Temporary Number:** 14F111-S4

**Cultural/Temporal Affiliation:** Anasazi/A.D. 700-900

**Site Type:** Artifact scatter

**Site Size:**

**Dimensions:** 35 x 18 m

**How Determined:** GPS

**Area:** 592 m<sup>2</sup> (as calculated in AutoCAD)

**Site Description:** Site LA 180209 is an Anasazi artifact scatter that was encountered during the cultural resource inventory of the Trunk K pipeline project. The site is situated on a bench above the Largo Canyon drainage, approximately 0.1 mi north of Cottonwood Canyon. Vegetation consists of an understory of sagebrush, galleta grass, blue grama grass, Indian ricegrass, alkali sacaton, snakeweed, prickly pear cactus, rabbitbrush, and greasewood. Sediment is silt loam with gravel and rock inclusions.

LA 180209 is located on a gentle sloping bench on the west side of the Largo Canyon drainage with an eastern exposure and excellent view of the canyon. A major pipeline ROW is adjacent to the southern site boundary.

**Condition:** Site LA 180209 is in fair condition. Energy development and livestock grazing are modern activities that take place in the site area.

**Expected Project Impacts:** Site LA 180209 is located in the northern edge of the cultural buffer zone, northeast of the proposed construction. If management recommendations are followed, no project-related impact to the site is expected.

**Significance and National Register Eligibility:** Site LA 180209 is recommended eligible for the NRHP under criterion (d). The site retains integrity of location, setting, association, and materials. Integrity of design, feeling, and workmanship may be present but not immediately apparent. The site contains potentially datable material, and the potential for buried cultural deposits. It retains the potential to provide additional information about Anasazi land use, settlement, and subsistence in the area.

**Management Recommendations:** To protect LA 180209, BLM-FFO stipulated that a barrier fence be placed along the eastern edge of the existing disturbance and the northwestern edge of the access road. The fence should begin at the intersection of the access road and the disturbance and extend to the northeast approximately 120 ft and 50 ft to the northwest. Archaeological monitoring of all ground-disturbing activity within 100 ft of the site is also recommended.

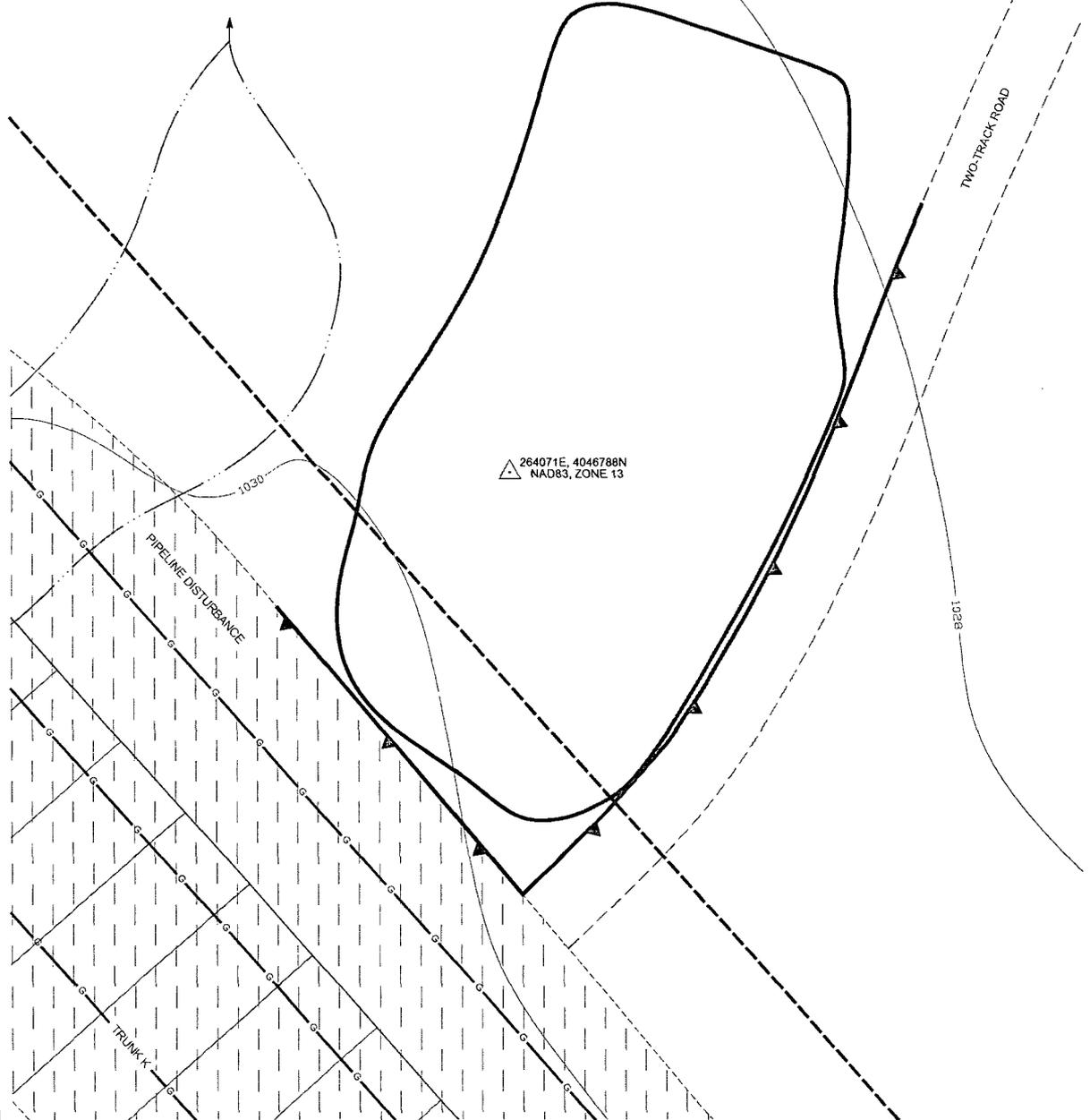
**ENTERPRISE PRODUCTS CO.  
TRUNK K  
LA 180209**

- |   |                   |   |                             |
|---|-------------------|---|-----------------------------|
|  | SITE DATUM        |  | ROW                         |
|  | SITE BOUNDARY     |  | EXISTING PIPELINE (APPROX.) |
|  | SURVEY AREA       |  | INTERMITTENT DRAINAGE       |
|  | TEMPORARY BARRIER |   |                             |



0 3 6 Meters  
0 10 20 Feet

CONTOUR INTERVAL 2M



**Site Number:** LA 180210 (Figure 6)

**Temporary Number:** 14F111-S5

**Cultural/Temporal Affiliation:** Anasazi/A.D. 700-900

**Site Type:** Habitation

**Site Size:**

**Dimensions:** 56 x 47 m

**How Determined:** GPS

**Area:** 1,541 m<sup>2</sup> (as calculated in AutoCAD)

**Site Description:** Site LA 180210 is an Anasazi habitation that was encountered during the cultural resource inventory of the Trunk K pipeline project. The site is situated on a bench west of Largo Canyon drainage, approximately 0.4 mi northwest of Cottonwood Canyon. Vegetation consists of an overstory of juniper with an understory of galleta grass, blue grama grass, sagebrush, snakeweed, Indian ricegrass, prickly pear cactus, and cholla. Sediment is silt loam with gravel and rock inclusions.

**Condition:** Site LA 180210 is in fair condition. Energy development and livestock grazing are modern activities that take place in the site area.

**Expected Project Impacts:** Site LA 180210 is located in the southwestern cultural buffer zone and extends into the existing pipeline ROW. However, the nearest repair location is located approximately 850 ft to the southeast and no impact to the site is expected.

**Significance and National Register Eligibility:** Site LA 180210 is recommended eligible for the NRHP under criterion (d). The site retains integrity of location, setting, association, and materials. Integrity of design, feeling, and workmanship may be present but not immediately apparent. The site contains potentially datable material, and the potential for buried cultural deposits. It retains the potential to provide additional information about Anasazi land use, settlement, and subsistence in the area.

**Management Recommendations:** No further work is recommended for this site.

**Site Number:** LA 180211 (Figure 7)

**Temporary Number:** 14F111-S6

**Cultural/Temporal Affiliation:** Unknown prehistoric/A.D. 1-1500

**Site Type:** Limited activity site

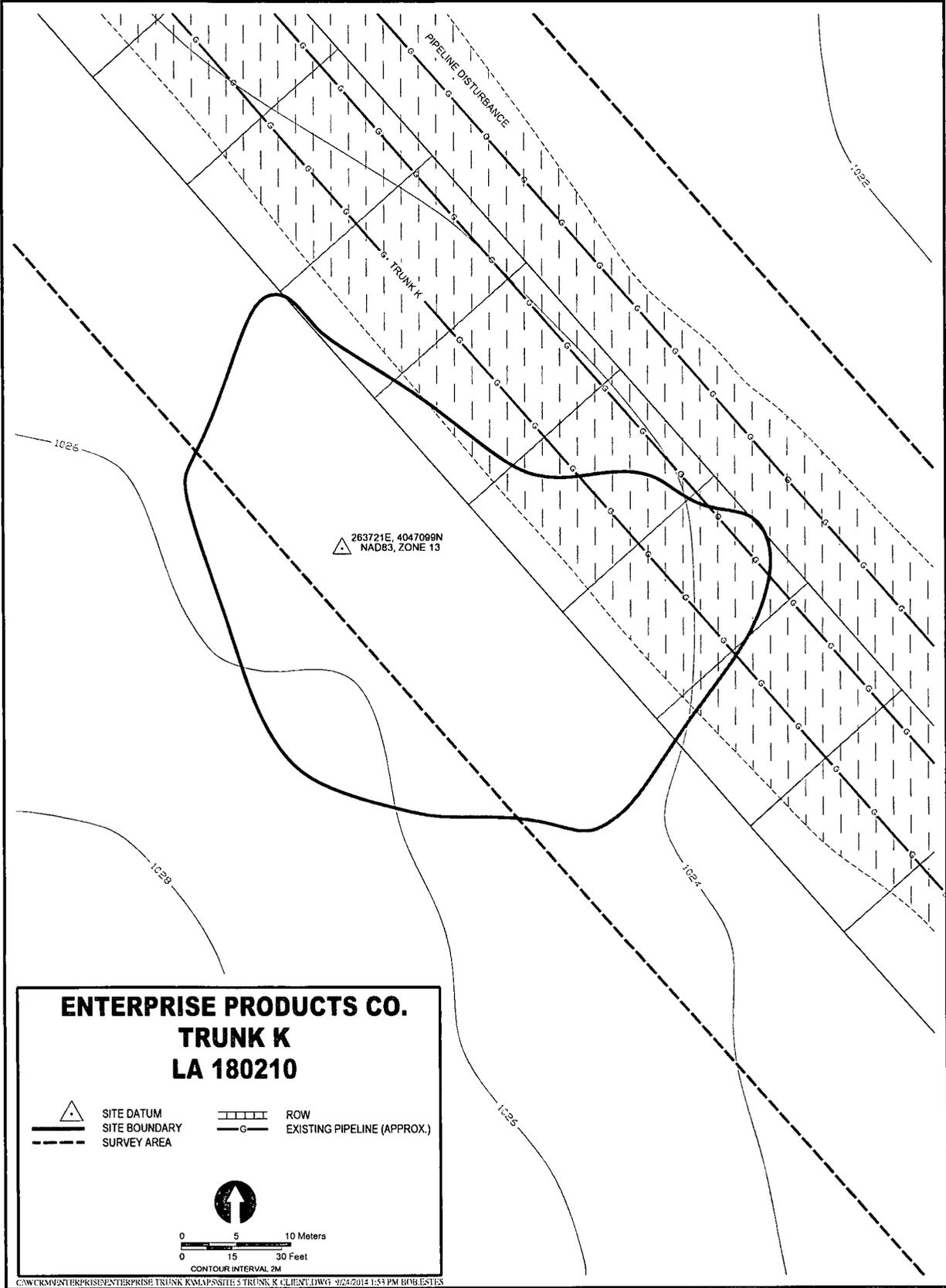
**Site Size:**

**Dimensions:** 10 x 8 m

**How Determined:** GPS

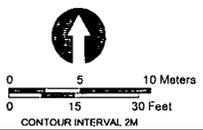
**Area:** 55 m<sup>2</sup> (as calculated in AutoCAD)

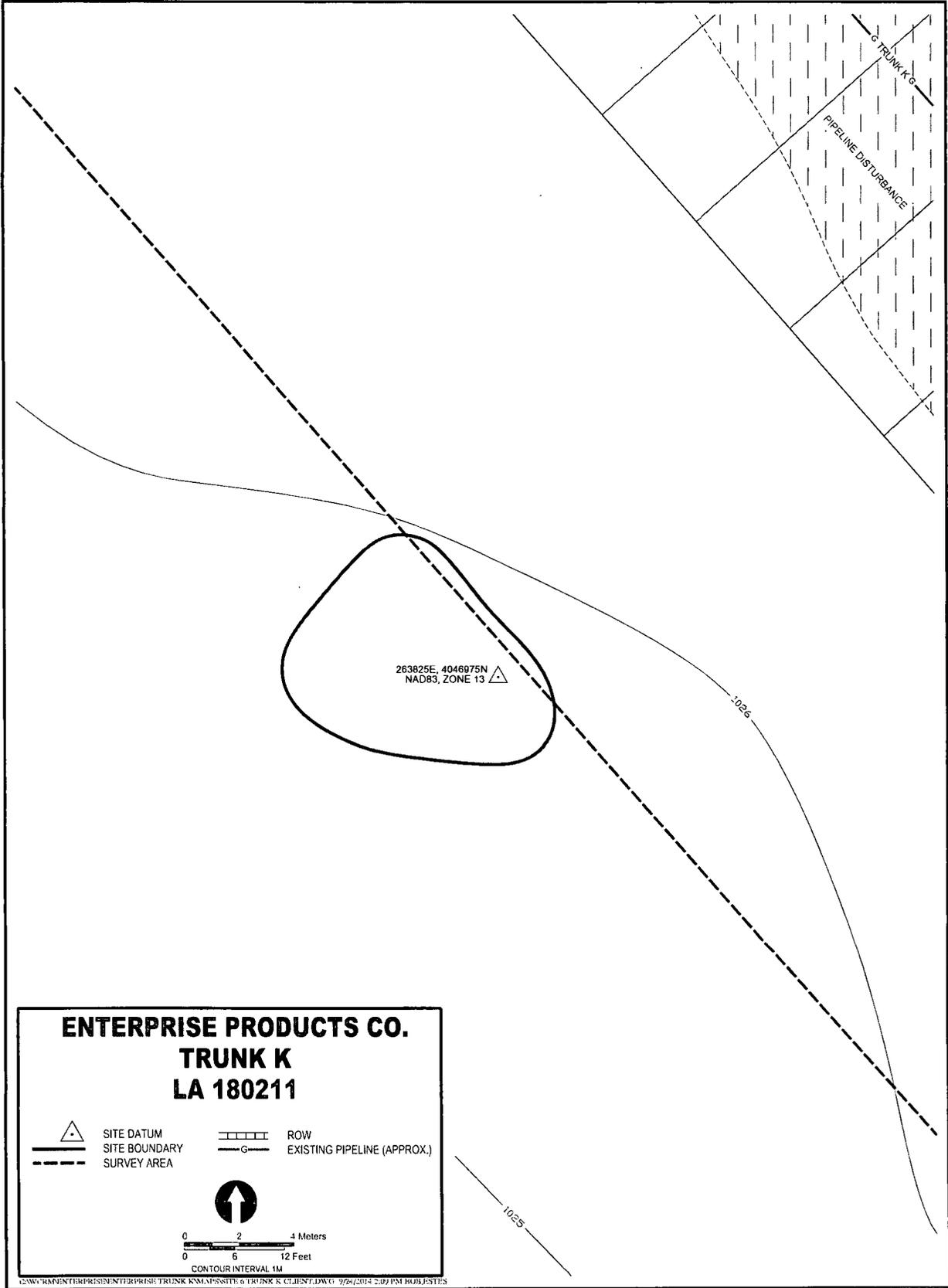
**Site Description:** Site LA 180211 is a limited activity site of unknown cultural and temporal affiliation that was encountered during the cultural resource inventory of the Trunk K pipeline project. The site is situated on a north-facing slope of a ridge west of Largo Canyon drainage, approximately 0.45 mi northwest of Cottonwood Canyon. The ridge provides shelter from southwest prevailing winds. A major pipeline ROW is adjacent to the eastern site boundary. Vegetation consists of a sparse overstory of



**ENTERPRISE PRODUCTS CO.  
TRUNK K  
LA 180210**

-  SITE DATUM
-  SITE BOUNDARY
-  SURVEY AREA
-  ROW
-  EXISTING PIPELINE (APPROX.)





**ENTERPRISE PRODUCTS CO.  
TRUNK K  
LA 180211**

- SITE DATUM
- SITE BOUNDARY
- SURVEY AREA
- ROW
- EXISTING PIPELINE (APPROX.)



C:\WORK\ENTERPRISE\ENTERPRISE TRUNK K\LA180211\6 TRUNK K CL.JESST.DWG: 9/24/2014 2:07 PM RBJ/STL

juniper with an understory of blue grama grass, sagebrush, snakeweed, rabbitbrush, and prickly pear cactus. Sediment is silt loam with gravel and rock inclusions.

**Condition:** Site LA 180211 is in fair condition. Energy development and livestock grazing are modern activities that take place in the site area.

**Expected Project Impacts:** Site LA 180211 is located along the southwestern edge of the cultural buffer zone. The nearest repair location is approximately 500 ft to the southeast and no project-related impact to the site is expected.

**Significance and National Register Eligibility:** Site LA 180211 is recommended eligible for the NRHP under criterion (d). The site retains integrity of location, setting, association, and materials. Integrity of design, feeling, and workmanship may be present but not immediately apparent. The site contains potentially datable material, and the potential for buried cultural deposits. It retains the potential to provide additional information about Anasazi land use, settlement, and subsistence in the area.

**Management Recommendations:** No further work is recommended for this site.

**Site Number:** LA 180212 (Figure 8)

**Temporary Number:** 14F111-S7

**Cultural/Temporal Affiliation:** Unknown prehistoric/A.D. 1-1500

**Site Type:** Limited activity site

**Site Size:**

**Dimensions:** 14 x 13 m

**How Determined:** GPS

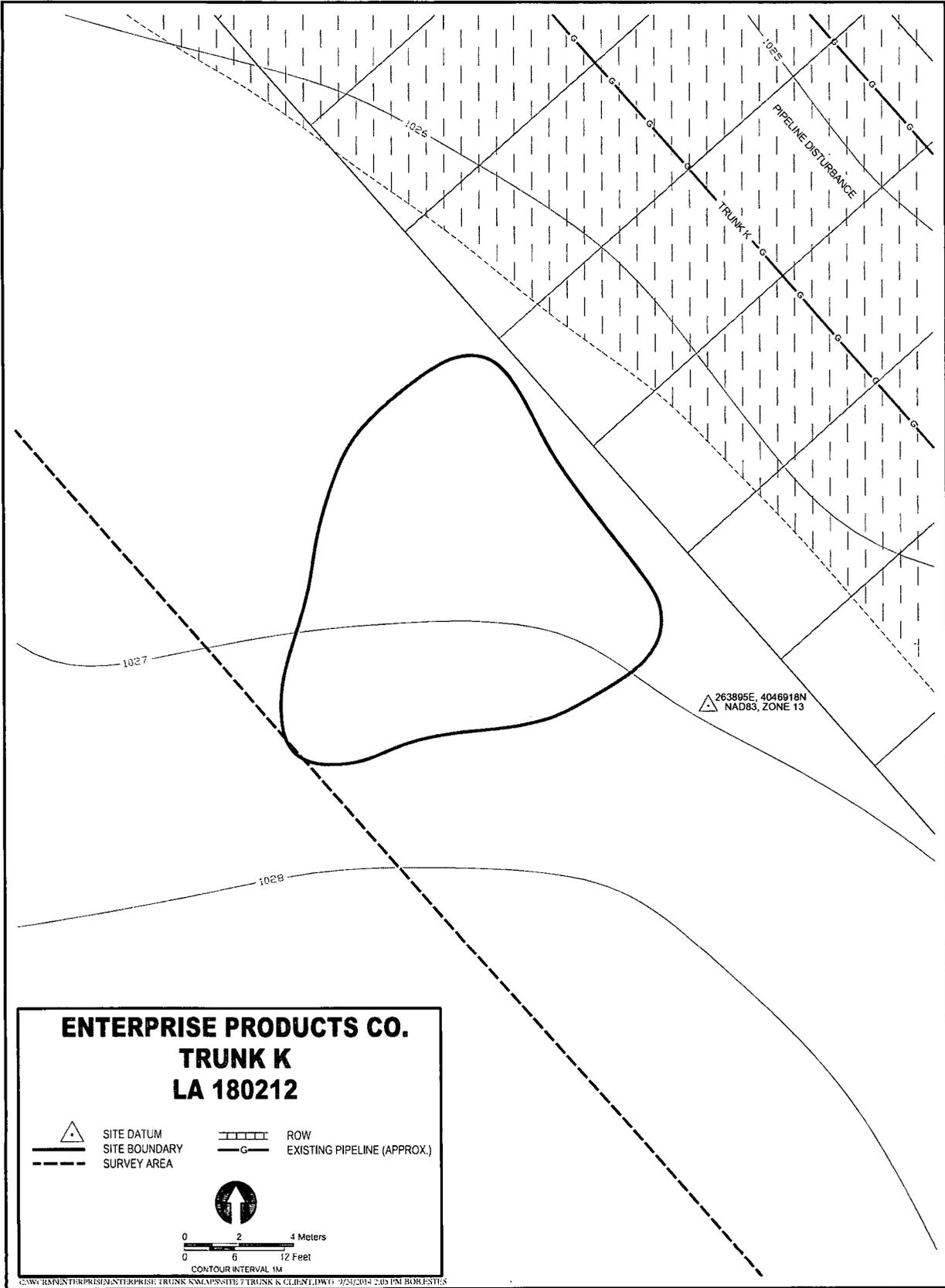
**Area:** 130 m<sup>2</sup> (as calculated in AutoCAD)

**Site Description:** Site LA 180212 is a limited activity site of unknown cultural and temporal affiliation that was encountered during the cultural resource inventory of the Trunk K pipeline project. The site is situated on a hill slope west of Largo Canyon drainage, approximately 0.35 mi northwest of Cottonwood Canyon. The ridge provides shelter from southwest prevailing winds. A major pipeline ROW is adjacent to the eastern site boundary. Vegetation consists of a sparse overstory of juniper with an understory of galleta grass, Texas Timothy grass, blue grama grass, sagebrush, alkali sacaton, snakeweed, rabbitbrush, and antelopebrush. Sediment is silt loam with gravel and rock inclusions.

**Condition:** Site LA 180212 is in fair condition. Energy development and livestock grazing are modern activities that take place in the site area.

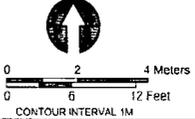
**Expected Project Impacts:** Site LA 180212 is located in the southwestern cultural buffer zone. The nearest repair location is located approximately 200 ft to the southeast and no project-related impact to the site is expected.

**Significance and National Register Eligibility:** Site LA 180212 is recommended eligible for the NRHP under criterion (d). The site retains integrity of location, setting, association, and materials. Integrity of design, feeling, and workmanship may be present but not immediately apparent. The site contains potentially datable material, and the potential for buried cultural deposits. It retains the potential to provide additional information about Anasazi land use, settlement, and subsistence in the area.



**ENTERPRISE PRODUCTS CO.  
TRUNK K  
LA 180212**

- |   |               |   |                             |
|---|---------------|---|-----------------------------|
|  | SITE DATUM    |  | ROW                         |
|  | SITE BOUNDARY |  | EXISTING PIPELINE (APPROX.) |
|  | SURVEY AREA   |   |                             |



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**Management Recommendations:** No further work is recommended for this site.

#### **Isolated Occurrences**

Inspection of the pipeline right-of-way resulted in the discovery of four IOs.

#### **CONCLUSIONS AND RECOMMENDATIONS**

Inspection of the six repair locations and access road resulted in the recording of six newly discovered archaeological sites (LA 180207, LA 180208, LA 180209, LA 180210, LA 180211, and LA 180212) and four IOs. The IOs are considered nonsignificant resources, and no further work is recommended for them. All six sites are recommended eligible for the NRHP, but only two require protective measures. To protect LA 180207, BLM-FFO stipulated that all vehicular traffic be restricted to the existing ROW and no excavation be conducted within the site boundary. An archaeologist needs to be present to take photos prior to beginning the repairs, during, and after completion. To protect LA 180209 a temporary barrier fence was to be placed as shown in Figure 5. If management recommendations are followed, no impact to the site is expected from construction activities. With these stipulations, cultural resource approval for this undertaking to proceed is recommended.

#### **REFERENCE CITED**

Van Valkenburgh, Richard F.

1974 *Navajo Sacred Places and A Short History of the Navajo People*. Garland American Indian Ethnohistory Series, Navajo Indians, 3 Vols. Garland Publishing, Inc., New York and London.

**Appendix A**

Nearby Sites  
(for agency use only)

# WCRM

Western Cultural Resource Management, Inc.

December 11, 2014

Mr. Steve Moskal  
Souder, Miller, and Associates  
2101 San Juan Blvd.  
Farmington, NM 87401

Dear Steve:

As requested, the client copy of our report on the archaeological monitor of the repair Location No. 6 on the Trunk K pipeline has been submitted electronically to you. During the monitor, no cultural material was encountered.

With completion of the monitor, all stipulations and conditions of cultural resource compliance have been met.

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-FFO  
Tom Long, Enterprise Products Company (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



**17. Survey Data (continued):**

**d. Nearest City or Town:** Blanco, New Mexico

**e. Legal Description:**

Township (N/S)	Range (E/W)	Section	1/4	1/4	1/4
27N	8W	25*	S 1/2 SE 1/4 SW 1/4		

\*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% coverage

**Configuration:**  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):** N/A    **Crew Size:** 1    **Fieldwork Dates:** September 15, 17, October 1, and 17, 2014

**Survey Person Hours:**    **Recording Person Hours:**    **Total Hours:**

**Additional Narrative:** : On September 15, 2014, prior to any construction on repair Location No. 6, temporary barrier fences were constructed by Michael J. Proper as stipulated by the BLM-FFO. Activities related to the repairs conducted at repair Location No. 6 were monitored by Michael J. Proper on September 17 and Cindy J. Bunker on October 1 and 17, 2014. To protect LA 180207, BLM-FFO stipulated that all vehicular traffic be restricted to the existing ROW and no excavation be conducted within the site boundary. An archaeologist was to be present to take photos prior to beginning the repairs, during, and after completion. To protect LA 180209 a temporary barrier fence was to be placed along the northern edge of the access road and the eastern edge of the Trunk K ROW along the site boundary. As required by the BLM photographs were taken before, during and after the repairs were completed. Photos are included in Appendix A.

**19. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.):** The segment of the Trunk K pipeline needing repairs is located on a dissected terrace above the flood plain, on the west side of Largo Canyon, between Cottonwood and Onofre Jaquez canyons. See original survey report for more information (Proper and Bunker 2014).

**20. a. Percent Ground Visibility:**      **b. Condition of Survey Area (grazed, bladed, undisturbed, etc**

**21. CULTURAL RESOURCE FINDINGS**  Yes,       No, **Discuss Why:** No cultural material was encountered during the monitor.

**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 12/11/2014      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)]*

<b>1. NMCRIS Activity</b> No.: 132260	<b>2. Lead (Sponsoring) Agency:</b> Bureau of Land Management, Farmington Field Office	<b>3. Lead Agency Report No.:</b>
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**SURVEY RESULTS:** No new cultural materials were encountered during the monitor.

**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:** 2  
**Total isolates recorded:** 0      **Non-selective isolate recording?**   
**Total structures recorded** (*new and previously recorded, including acequias*): 0

**MANAGEMENT SUMMARY:** With completion of the monitor, all stipulations and conditions for cultural resource compliance have been met.

**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*)

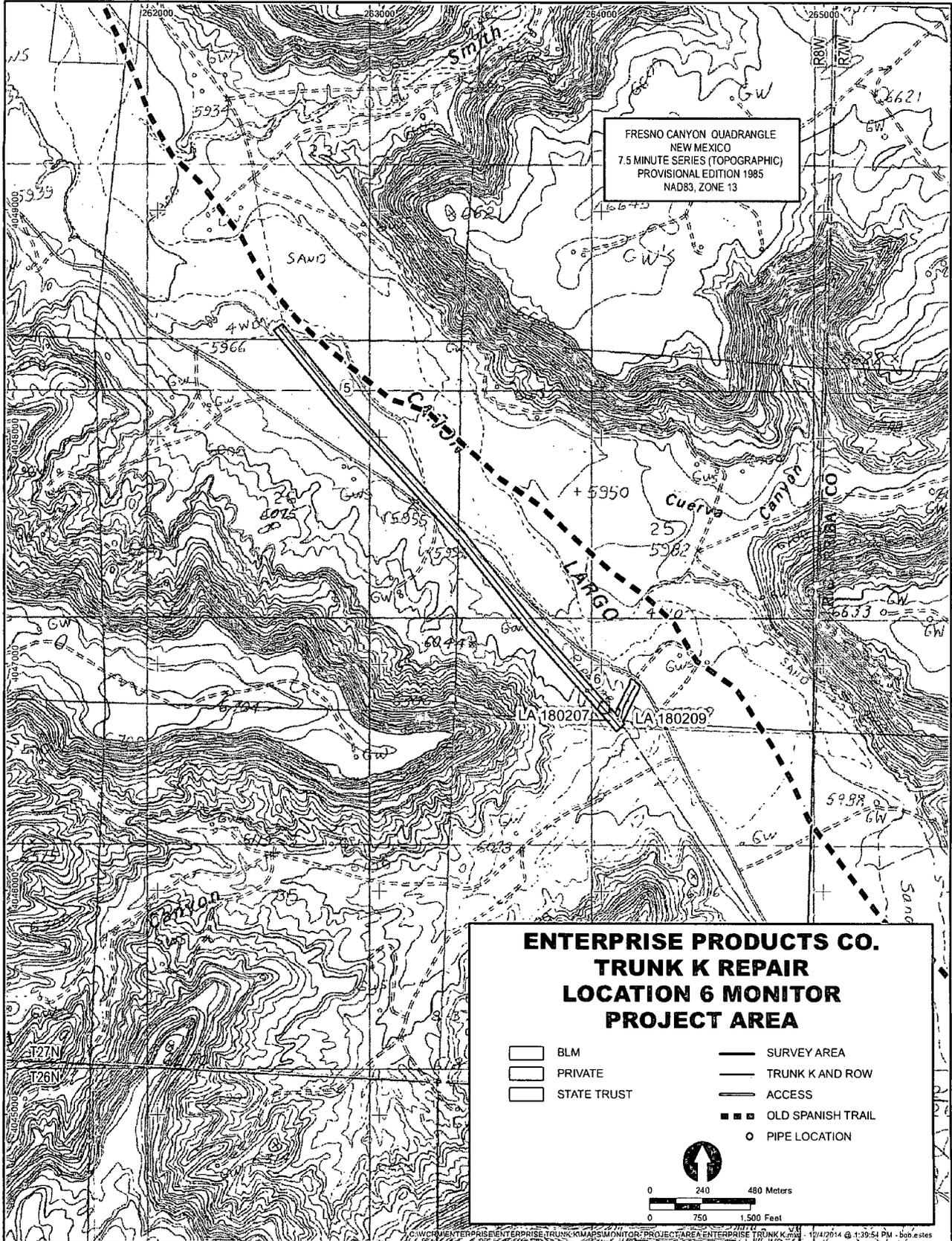
**Sites Discovered** (*site form required*):      **Previously recorded sites** (*Site update form required*):

LA No.	Field/Agency No.	LA No.	Field/Agency No.
		LA 180207	14F111-S1
		LA 180209	14F111-S4

**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)



## **Appendix A**

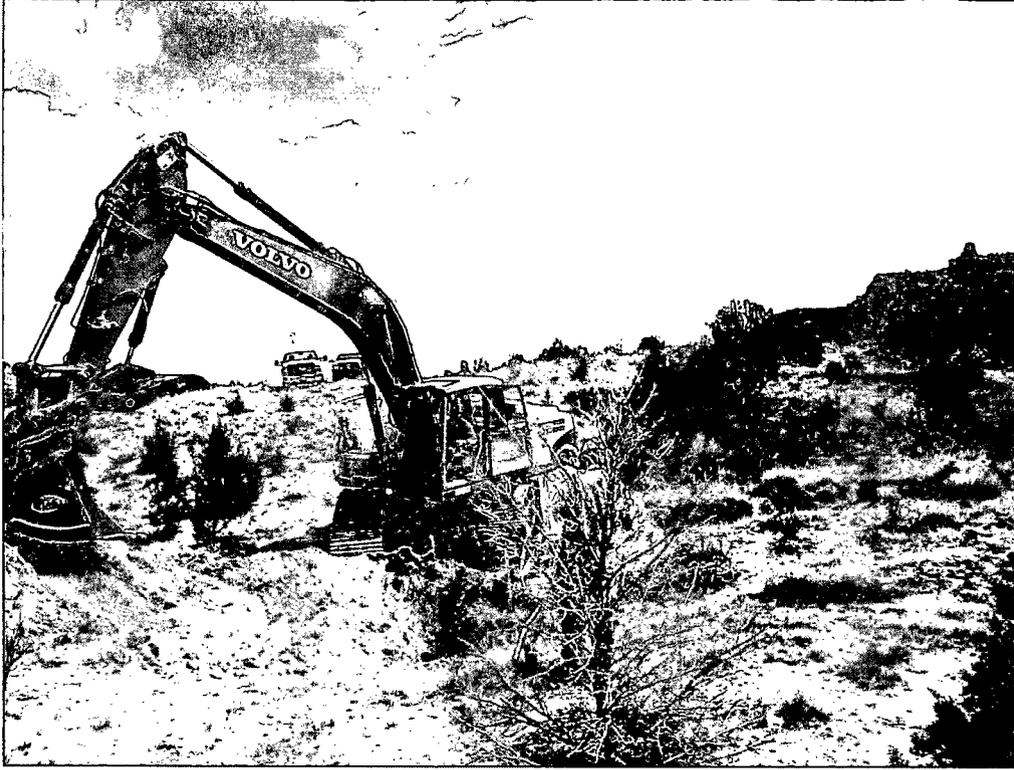
### Photographs



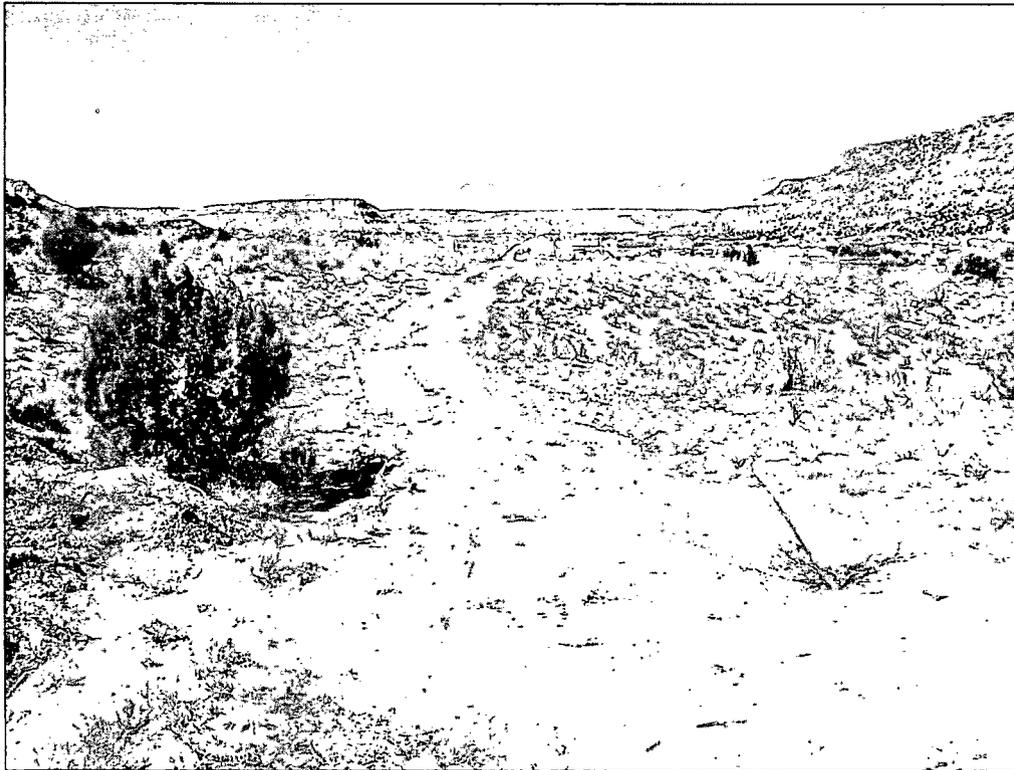
Overview of the access road paralleling the temporary protective fence around site LA 180209, looking northeast.



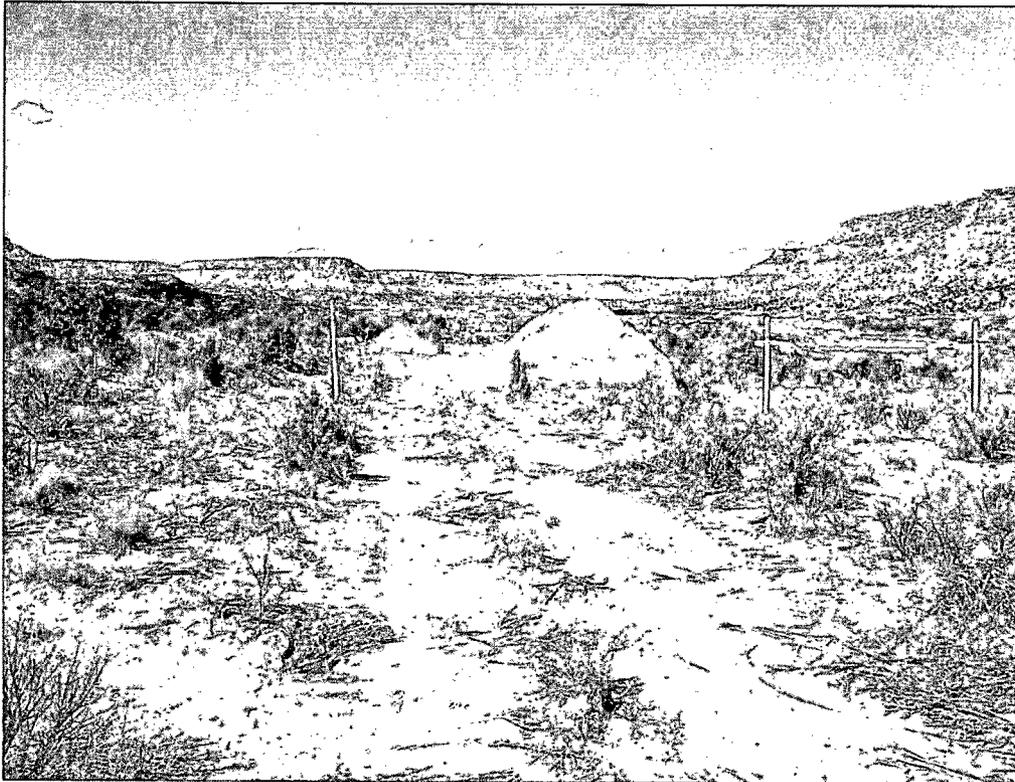
Overview of two-track within the Trunk K ROW, looking northwest towards site LA 180207.



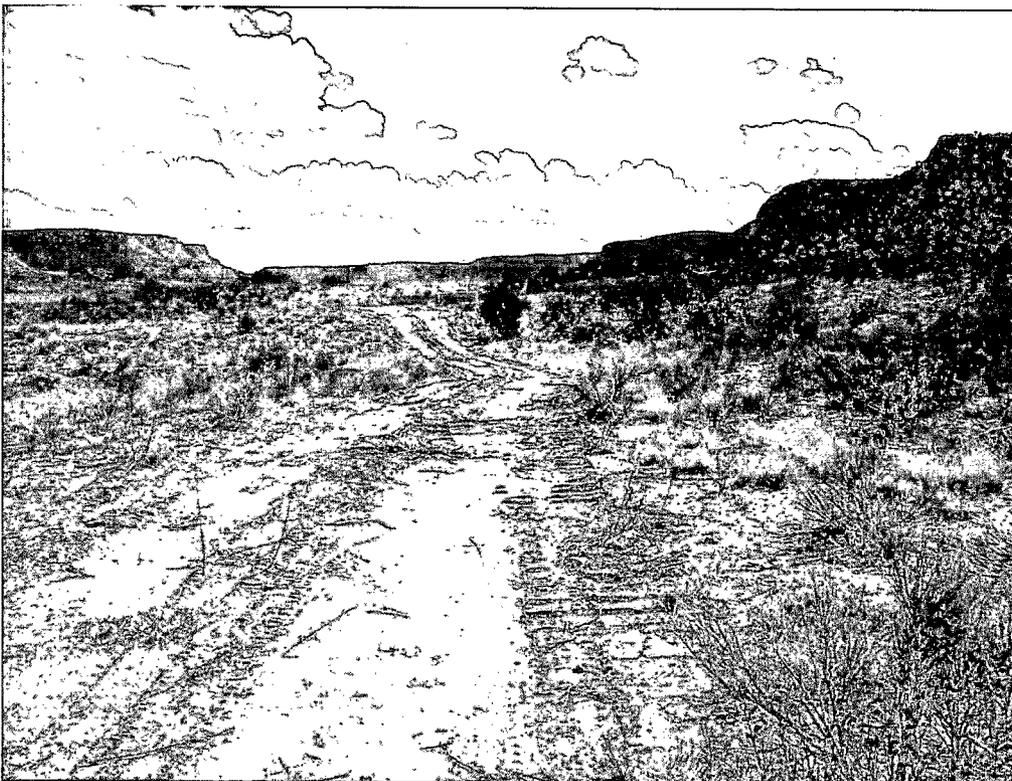
The excavation of repair Location No. 6, looking south towards Site LA 180207.



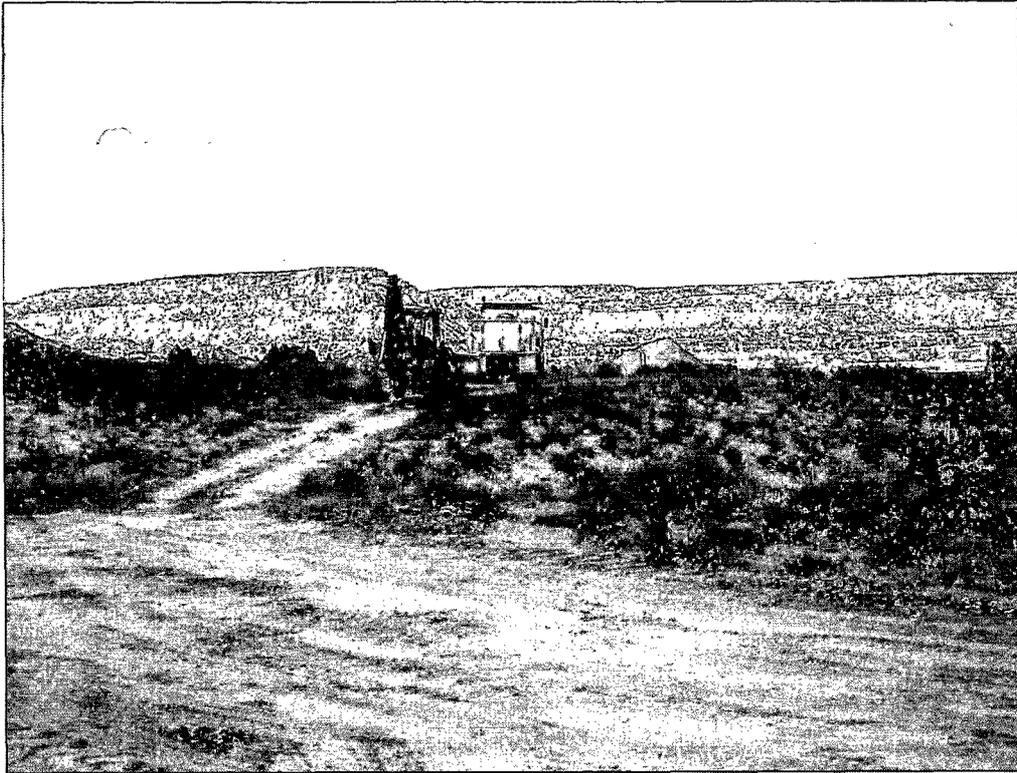
Overview of access road within the Trunk K ROW after the excavation of the repair location, view to northwest towards site LA 180207.



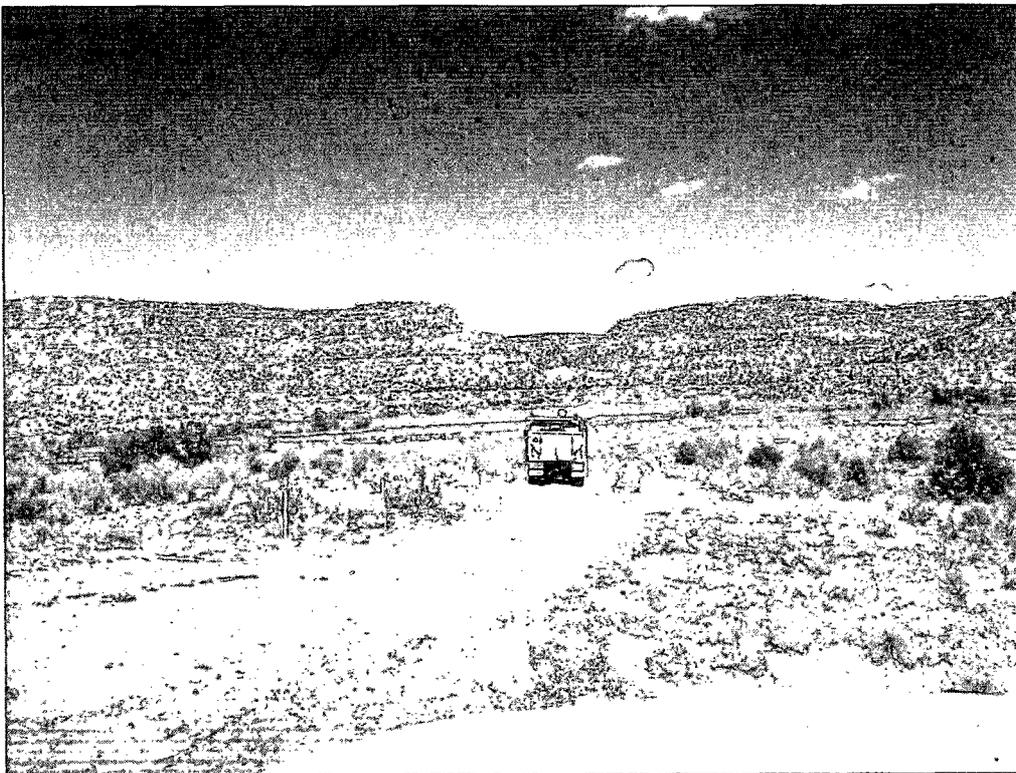
View of access road looking towards Location No. 6 from the northern edge of site LA 180207. Note the red pile of clean soil on the left of the road and the tan pile of contaminated soil on the right.



Overview of access road from just south of the repair Location No. 6 looking south across site LA 180207.



Truck loaded with clean soil along with a backhoe, using the access road headed northwest toward site LA 180207.



Overview of truck loaded with contaminated soil leaving the project area.



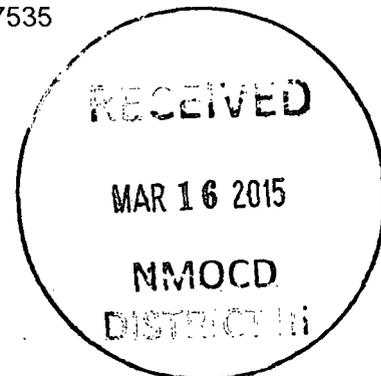
**GROUNDWATER INVESTIGATION REPORT  
TRUNK K #3 16 INCH NATURAL GAS PIPELINE RELEASE  
UNIT H, SECTION 26, TOWNSHIP 27 NORTH, RANGE 8 WEST,  
36.545423°, -107.645017°  
SAN JUAN COUNTY, NEW MEXICO**

**January 30, 2015**



**Submitted To:**  
Enterprise Products  
Field Environmental-San Juan Basin  
614 Reilly Avenue  
Farmington, NM 87401

**Submitted By:**  
Souder, Miller & Associates  
401 West Broadway  
Farmington, NM 87401  
(505) 325-7535





## Table of Contents

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2.0 Introduction.....	1
3.0 Summary of Field Activities .....	1
4.0 Conclusions and Recommendations .....	3
5.0 Closure and Limitations .....	4

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- Figure 1: Vicinity Map
- Figure 2: Site Map
- Figure 3: Monitor Well Construction Log
- Figure 4: Groundwater Sampling Map

### Tables:

- Table 1: Summary of Laboratory Analysis

### Appendices:

- Appendix A: Photographic Documentation
- Appendix B: Soil Disposal Documentation
- Appendix C: Laboratory Analytical Report

## 1.0 Executive Summary

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this groundwater investigation report to describe the installation and sampling of groundwater monitoring wells for a hydrocarbon release associated with the 16-inch Trunk K pipeline release #3 excavation site. The well installation and sampling is intended to complete the groundwater impact investigation requested by the New Mexico Oil Conservation Division (OCD). The excavation and backfill soil remediation activities were completed on October 21, 2014.

## 2.0 Introduction

The Trunk K #3 release was discovered simultaneously with 5 other leak locations on the Trunk K Pipeline, all associated with internal pipeline corrosion. An unknown amount of natural gas and pipeline liquids were released. The release was confirmed during a pipeline patrol using a gas detector on September 1, 2014. The Trunk K #3 pipeline release is located in (SE ¼ / NE ¼) Unit H, Section 26, Township 27 North, Range 8 West, 36.545423°, -107.645017°, San Juan County, New Mexico. Figure 1, Vicinity Map, illustrates the general location of the release.

### **New Mexico Oil Conservation Division Site Ranking**

The release site is located along the south bank of Largo Canyon Wash on land managed by the Bureau of Land Management (BLM) with an elevation of approximately 5,955 feet above sea level. During the excavation for pipeline repairs and remedial activities, it was determined that depth to groundwater is approximately 20 feet below ground surface (bgs).

SMA searched the New Mexico Office of the State Engineer's (OSE) online water well data base for water wells in the vicinity of the release. No recorded wells were located within 1,000 feet of the site. One well was located within a 1 mile radius of the site. There is no anticipated impact to this well.

The physical location of this release is within the jurisdiction of the BLM and OCD. This release location has been assigned a OCD ranking of 40, which requires soil remediation standards of 10 parts per million (ppm) benzene, 50 ppm total benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 100 ppm total petroleum hydrocarbons (TPH).

## 3.0 Summary of Field Activities

On August 20, 2014, a leak on the Trunk K Pipeline was reported to the BLM by a private party. In an effort to identify the leak location, Enterprise contracted a third party to patrol the pipeline right-of-way (ROW) to determine the locations of the reported leak and other suspected leaks. Using an application specific gas detector, the third party identified 5 additional leak locations. During this time, the BLM identified the location of

the six pipeline releases to be potential cultural and riparian sensitive areas. A riparian clearance was granted by the BLM and an archeological study was performed by a third party consultant, Western Cultural Resource Management.

SMA began oversight of the excavations on August 28, 2014. During the excavation, soil samples were collected for field screening to determine the extent of the releases. Under the supervision and direction of SMA, Energy Maintenance Services (EMS) excavated and transported the hydrocarbon impacted soil for offsite disposal. The contaminated soil was transported to Envirotech Landfarm near Bloomfield, NM. Soil and purge water disposal documentation is included in Appendix B.

Samples were not collected from the base of the Trunk K #3 excavation, at approximately 20 feet below ground surface (bgs), due to elevated volatile hydrocarbon readings during field screening. Field screening was conducted using a properly calibrated photoionization detector (PID). Saturated soils were encountered at approximately 20 feet bgs, indicating that hydrocarbon contamination was in contact with the groundwater table.

### **Monitor Well Installations**

In order to determine groundwater impacts, OCD requested that Enterprise Products complete a groundwater investigation.

**Monitoring Well Locations:** Drilling access was restricted to the 50 foot ROW allotted by the BLM Land Access Grant. SMA determined that the installation of four monitoring wells was necessary in order to establish a groundwater gradient and to better identify the extent of possible groundwater contamination at the Trunk K #3 site. All wells were installed within the ROW. The Trunk K pipeline was exposed in three locations using a hydro excavator on January 19, 2015 to ensure drilling clearance. The soil from the hydro excavation was transported and disposed of at the Envirotech Landfarm near Hilltop, NM. A site map depicting the well locations is included as Figure 2.

**Well Permits:** SMA obtained monitoring well permits on behalf of Enterprise Products from the OSE. OSE issued the well permits on December 30, 2014.

**Site Access and Control:** The Trunk K #3 site was delineated with colored lath to identify the 50 foot right of way. All site personnel were instructed to stay within the marked boundary with both vehicular and foot traffic.

**Drilling and Monitoring Well Completions:** Beginning on January 20, 2015 through January 22, 2015 the drilling and well installations were performed by Enviro-Drill, Inc. of Albuquerque, NM utilizing a CME 75 Hollow Stem Auger rig. Split spoon samples were taken at 5 foot intervals for field screening using a calibrated PID. No laboratory soil samples will be collected during drilling activities. All field screening indicated that soil samples were below action levels (<100 ppm). The site remains staked and flagged to ensure site access and control.

All four soil borings were advanced to 32 feet bgs. Each of the monitoring wells were constructed identically using a total of 35 feet of threaded 2" PVC well pipe. A well completion diagram is included as Figure 3.

The wells were completed with aboveground steel well shrouds cemented into a 2 feet round pads with a minimum thickness of 4-inches. Each well was fitted with 3 protective bollards to prevent damage from vehicle collisions, livestock or wildlife.

**Well Development and Sampling:** On January 22, 2015 the monitoring wells were developed by rapidly inserting a solid slug into the well and allowing the well to sit and reach equilibrium for approximately five minutes. The slug was then rapidly removed and allowed to reach equilibrium for approximately five minutes. The process was repeated in each well approximately 8 times per well. The wells were then purged of approximately three well volumes of water using an electric, submersible pump. The purge water was field screened for pH, conductivity, and temperature until successive readings stabilized within 10% of prior values. Turbidity was reduced as much as possible. All purged water was collected and containerized for offsite disposal at the Envirotech Landfarm.

Once development was complete, the wells were allowed to recover and stabilize for approximately 24 hours. On January 23, 2015, SMA, with oversight from Cory Smith of the OCD, purged an additional three well volumes and collected groundwater samples from each of the four wells. The samples were collected in laboratory provided 40 ml VOAs, labeled with necessary information and stored on ice. The samples were then couriered under chain of custody procedures to Hall Environmental Analytical Laboratory in Albuquerque, NM for laboratory analysis via EPA Method 8021 for benzene, toluene, ethylbenzene and xylenes (BTEX).

## 4.0 Conclusions and Recommendations

**Groundwater Sampling Results:** Laboratory analytical results of the groundwater samples collected from the four monitoring wells were below laboratory detection limits for all contaminants of concern. A summary of laboratory results is included as Table 1. A copy of the laboratory report is included in Appendix C. SMA recommends no further remedial action at the Trunk K #3 pipeline release site.

**Plugging and Abandonment Request:** Because all groundwater contaminant concentrations are below OCD and New Mexico Water Quality Control Commission standards, Enterprise Products requests approval from OCD to plug and abandon the four groundwater monitoring wells. The wells will be abandoned in accordance to the approved Plugging and Abandonment Plan submitted to the OSE within the monitoring well permit package. If necessary, any disturbed area will be reseeded with a BLM approved seed mixture during the next favorable growing season.

## 5.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, oversight and control of remediation operations, disposal arrangements and documentation, project management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices.

If there are any questions regarding this report, please contact either Steve Moskal or Reid Allan at 505-325-7535.

Submitted by:

Reviewed by:

SOUDER, MILLER & ASSOCIATES



Steve Moskal  
Project Scientist

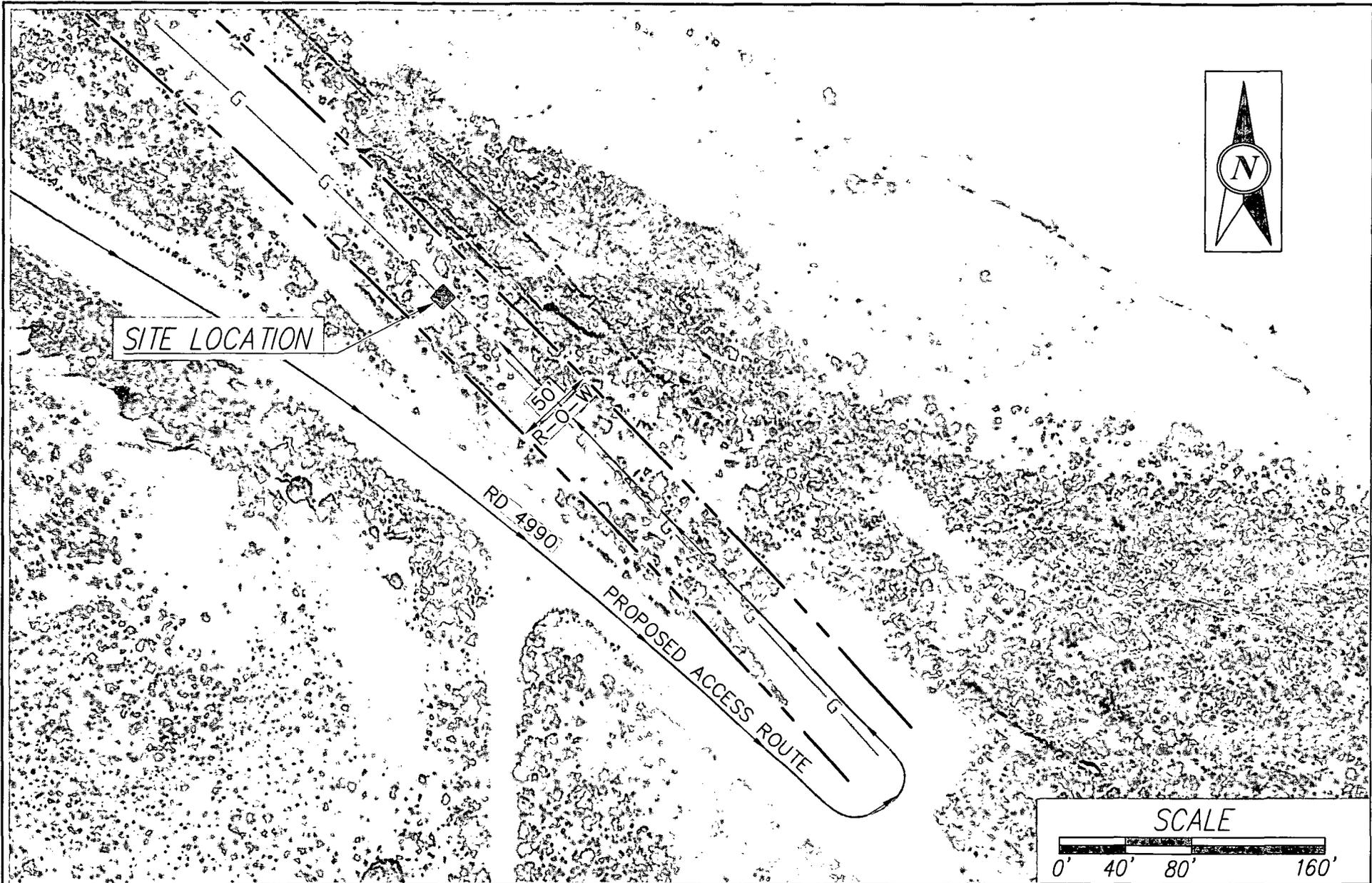


Reid S. Allan, PG  
Principal Scientist

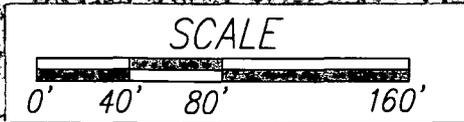
## Figures



 <p><b>SMA</b> Engineering Environmental Surveying</p>	<p><b>SOUDER, MILLER &amp; ASSOCIATES</b> 401 West Broadway Avenue Farmington, NM 87401-5907</p> <p>Phone (505) 325-7533 Toll-Free (800) 519-4098 Fax (505) 326-0043 www.soudermiller.com</p> <p>Serving the Southwest &amp; Rocky Mountains Albuquerque, Carlsbad, Farmington, Las Cruces, Roswell, Santa Fe, NM - El Paso, TX Cortez - Grand Junction - Montrose, CO - Safford, AZ - Moab, UT</p>	<p>ENTERPRISE FARMINGTON, NEW MEXICO</p> <p><b>VICINITY MAP</b> <b>BALLARD COMPRESSOR STATION</b> <b>SECTION 26, T26N, R9W</b></p> <p>SAN JUAN COUNTY, NEW MEXICO</p>	<table border="1"> <tr> <td>Designed</td> <td>SM</td> <td>Drawn</td> <td>DJB</td> <td>Checked</td> <td>RSA</td> </tr> <tr> <td>Date:</td> <td colspan="5">1/8/15</td> </tr> <tr> <td>Scale:</td> <td colspan="5">Horiz: 1"=2000' Vert: N/A</td> </tr> <tr> <td>Project No:</td> <td colspan="5">5122855</td> </tr> <tr> <td>Sheet:</td> <td colspan="5">1</td> </tr> </table>	Designed	SM	Drawn	DJB	Checked	RSA	Date:	1/8/15					Scale:	Horiz: 1"=2000' Vert: N/A					Project No:	5122855					Sheet:	1				
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	Scale:	Horiz: 1"=2000' Vert: N/A																															
	Project No:	5122855																															
Sheet:	1																																



SITE LOCATION



**SOUDER, MILLER & ASSOCIATES**  
 401 W. BROADWAY  
 FARMINGTON, NM 87401  
 Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 325-0045  
 www.soudermiller.com  
 Serving the Southwest & Rocky Mountains  
 Albuquerque, Farmington, Las Cruces, Roswell, Santa Fe, NM • El Paso, TX  
 Cortez • Grand Junction • Montrose, CO • Safford, AZ • Moab, UT

ENTERPRISE  
 SAN JUAN COUNTY, NEW MEXICO

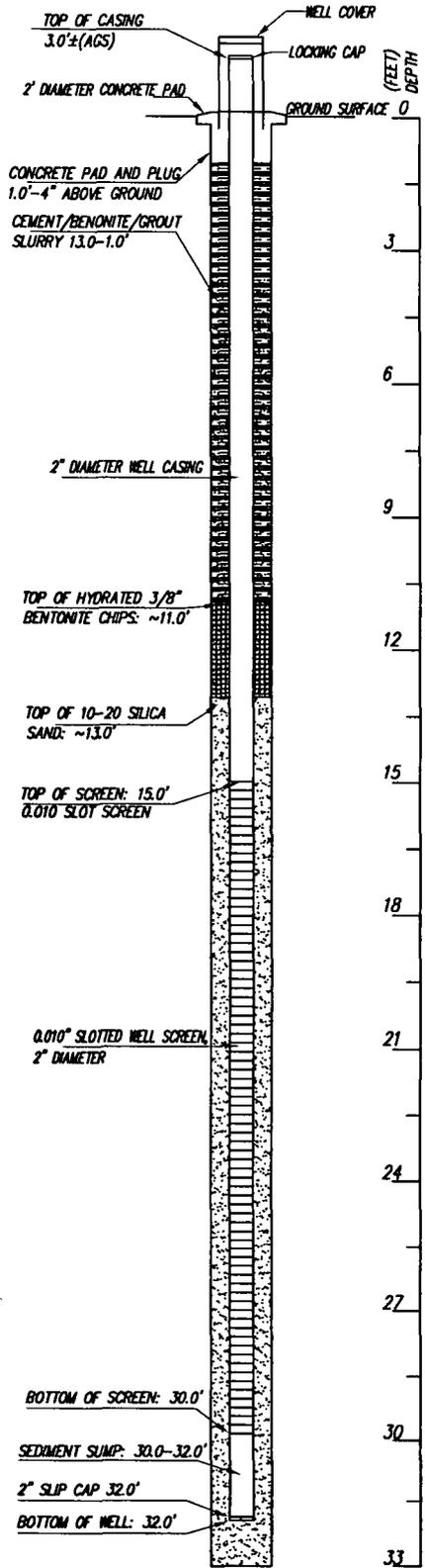
**SITE LOCATION MAP  
 TRUNK K #3  
 SECTION 26, T27N, R8W**

FARMINGTON, NEW MEXICO

Designed SM	Drawn DJB	Checked RSA
Date: 10/22/14		
Scale: Horiz: 1"=80' Vert: N/A		
Project No: 5122855		
Sheet: 2		

THIS DRAWING IS THE PROPERTY OF SMA AND NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

# SJ-4124: POD1-POD4



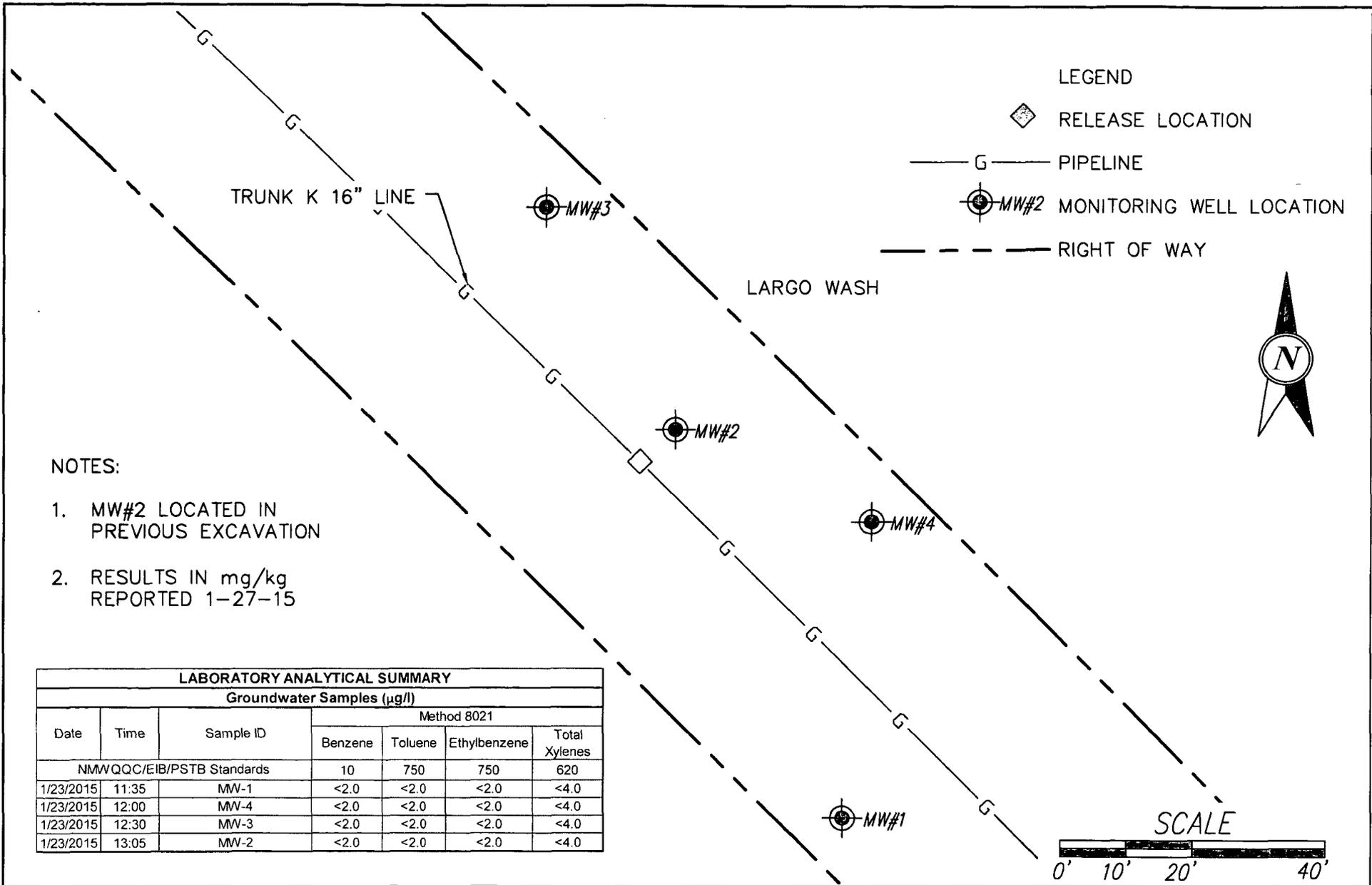
GEOLOGIC BORING INFORMATION

(0-32') FINE TO COURSE GRAINED SUB ANGULAR TO WELL ROUNDED QUARTZ DOMINANT SAND WITH MEDIUM CLAY FILMS. 5YR 4/3 TO 10YR 5/4. OCCASIONAL CLAY LENSES THROUGHOUT BOREHOLE DEPTH. NO MORE THAN A FEW INCHES THICK EACH. WATER ENCOUNTERED AT ~21' BGS IN EACH WELL. MW-2 LOCATED IN BACKFILL MATERIAL TO ~20' BGS.

DRILLER: ENVIRO-DRILL, INC.  
 DATE COMPLETED: JANUARY 20-22  
 BOREHOLE DIAMETER: 7 7/8" O.D.  
 DRILLING METHOD: HOLLOW STEM AUGER  
 TOTAL BORING DEPTH: ~32 FT.  
 LOGGED BY: J. SPRAGUE

## MW-1, MW-2, MW-3, MW-4

 <b>Engineering Environmental Surveying</b>	<b>SOUDER, MILLER &amp; ASSOCIATES</b> 401 West Broadway Avenue Farmington, NM 87401-5907 Phone (505) 325-7533 Toll-Free (800) 519-0099 Fax (505) 326-0245 www.soudermiller.com Serving the Southwest & Rocky Mountains Albuquerque, Carlsbad, Farmington, Las Cruces, Roswell, Santa Fe, NM - El Paso, TX Color - Grand Junction - Montrose, CO - Sedford, AZ - Mesabi, UT	ENTERPRISE FARMINGTON, NEW MEXICO	Designed SM	Drawn GJF	Checked RSA
	<b>MONITORING WELLS 1-4</b>				
	<b>AS-BUILT WELL COMPLETION DIAGRAM</b>				
	<b>TRUNK K #3</b>				
	SAN JUAN COUNTY				
			Date: 1/29/2015 Scale: Horiz: NA Vert: NA Project No: 5122855 Sheet: 3		

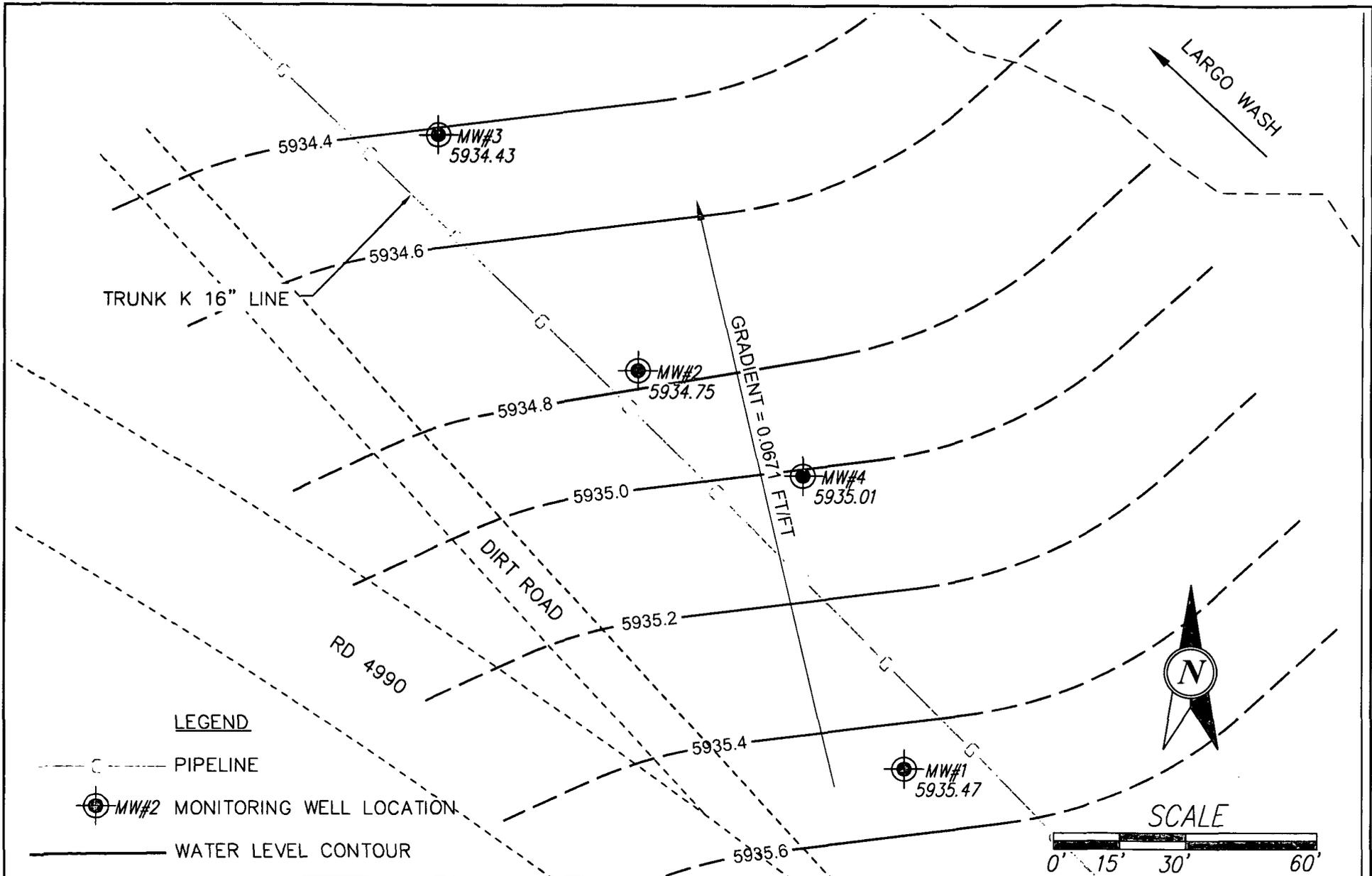


**NOTES:**

- 1. MW#2 LOCATED IN PREVIOUS EXCAVATION
- 2. RESULTS IN mg/kg REPORTED 1-27-15

LABORATORY ANALYTICAL SUMMARY						
Groundwater Samples (µg/l)						
Date	Time	Sample ID	Method 8021			
			Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQQC/EIB/PSTB Standards			10	750	750	620
1/23/2015	11:35	MW-1	<2.0	<2.0	<2.0	<4.0
1/23/2015	12:00	MW-4	<2.0	<2.0	<2.0	<4.0
1/23/2015	12:30	MW-3	<2.0	<2.0	<2.0	<4.0
1/23/2015	13:05	MW-2	<2.0	<2.0	<2.0	<4.0

	<b>SOUDER, MILLER &amp; ASSOCIATES</b> 401 W. BROADWAY FARMINGTON, NM 87401 Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 325-0045 www.soudermiller.com Serving the Southwest & Rocky Mountains Albuquerque, Farmington, Las Cruces, Roswell, Santa Fe, NM • El Paso, TX Cortez • Grand Junction • Montrose, CO • Salt Lake City, UT • Moab, UT	ENTERPRISE FARMINGTON, NEW MEXICO	<b>GROUNDWATER SAMPLING MAP</b> <b>TRUNK K-3</b> <b>SECTION 26, T27N, R8W</b> SAN JUAN COUNTY, NEW MEXICO	<table border="1"> <tr> <td>Designed</td> <td>SM</td> <td>Drawn</td> <td>DJB</td> <td>Checked</td> <td>RSA</td> </tr> <tr> <td>Date:</td> <td colspan="5">2/5/2015</td> </tr> <tr> <td>Scale:</td> <td colspan="5">Horiz: 1"=20'</td> </tr> <tr> <td></td> <td colspan="5">Vert: N/A</td> </tr> <tr> <td>Project No:</td> <td colspan="5">5122855</td> </tr> <tr> <td>Sheet:</td> <td colspan="5">4</td> </tr> </table>	Designed	SM	Drawn	DJB	Checked	RSA	Date:	2/5/2015					Scale:	Horiz: 1"=20'						Vert: N/A					Project No:	5122855					Sheet:	4				
	Designed	SM	Drawn	DJB	Checked	RSA																																		
Date:	2/5/2015																																							
Scale:	Horiz: 1"=20'																																							
	Vert: N/A																																							
Project No:	5122855																																							
Sheet:	4																																							
THIS DRAWING IS THE PROPERTY OF SMA. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF SMA.	© Copyright 2015 Souder, Miller & Associates - All Rights Reserved				P:\S-Enterprise_MSA (2014) 5122855\SPILL_RESPONSE\IBG45 - Trunk K\Trunk K-3\CAD\Drawgs\Trunk K-3 MonitorWells Location Map.dwg, JES, 2/5/2015 1:25 PM																																			



**LEGEND**

- PIPELINE
- MONITORING WELL LOCATION
- WATER LEVEL CONTOUR



**SOUDER, MILLER & ASSOCIATES**  
 401 W. BROADWAY  
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ENTERPRISE	FARMINGTON, NEW MEXICO		
<b>POTENTIOMETRIC SURFACE MAP</b>			
<b>TRUNK K-3</b>			
<b>SECTION 26, T27N, R8W</b>			
Designed SM	Drawn DJB	Checked RSA	Date: 2/5/2015
Scale: Horiz: 1"=30'		Vert: N/A	
Project No: 5122855			
Sheet: 5			

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## **Tables**

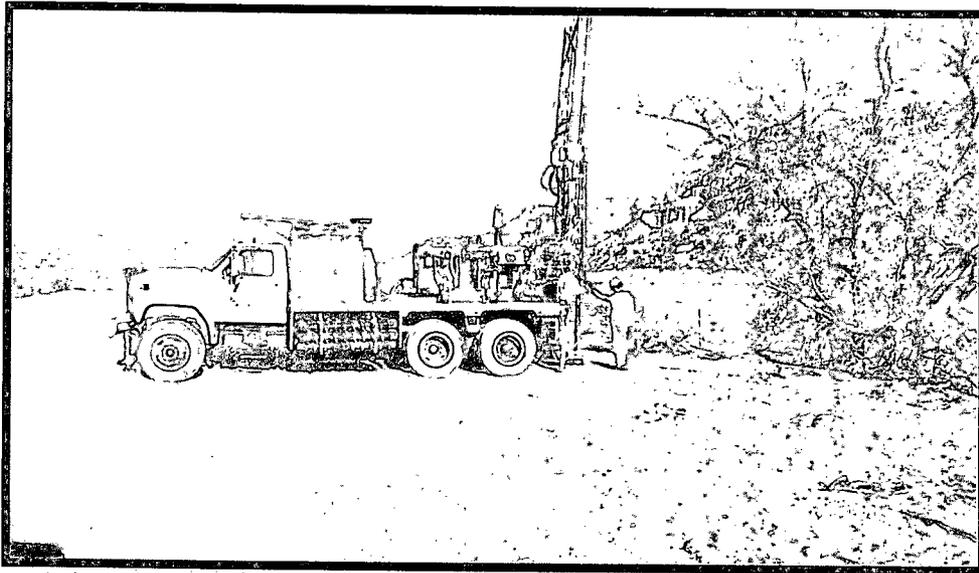
Enterprise Products  
 Table 1: Groundwater Laboratory Results Summary  
 (µg/L)

Trunk K #3  
 Pipeline Release  
 2/5/2015

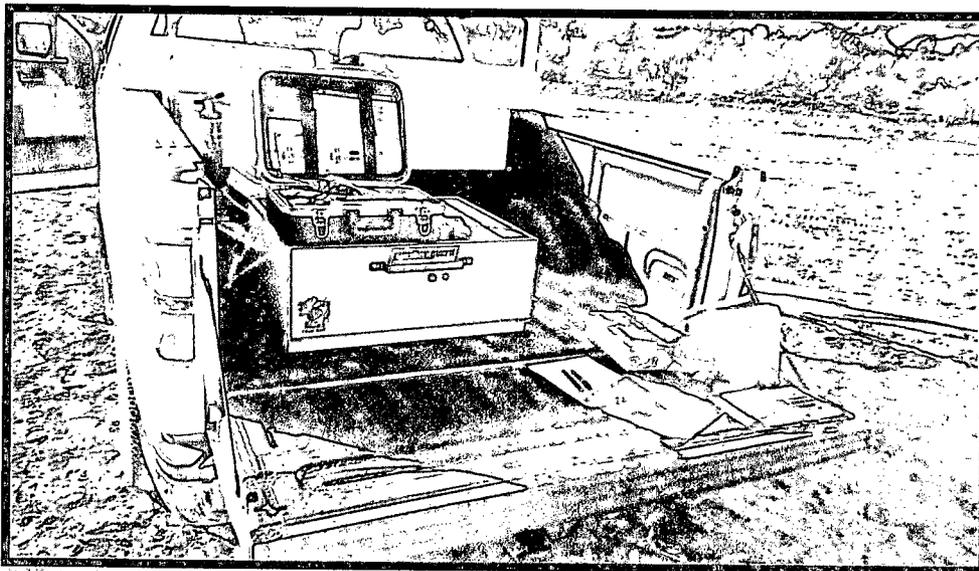
LABORATORY ANALYTICAL SUMMARY						
Groundwater Samples (µg/l)						
Date	Time	Sample ID	Method 8021			
			Benzene	Toluene	Ethylbenzene	Total Xylenes
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1/23/2015	11:35	MW-1	<2.0	<2.0	<2.0	<4.0
1/23/2015	12:00	MW-4	<2.0	<2.0	<2.0	<4.0
1/23/2015	12:30	MW-3	<2.0	<2.0	<2.0	<4.0
1/23/2015	13:05	MW-2	<2.0	<2.0	<2.0	<4.0

**Appendix A**  
**Photographic Documentation**

**Site Photographs**  
**Enterprise Products Trunk K #3 Monitor Well Installation**



**Photo 1:** Enviro-Drill Inc. out of Albuquerque in position to drill Monitor Well.



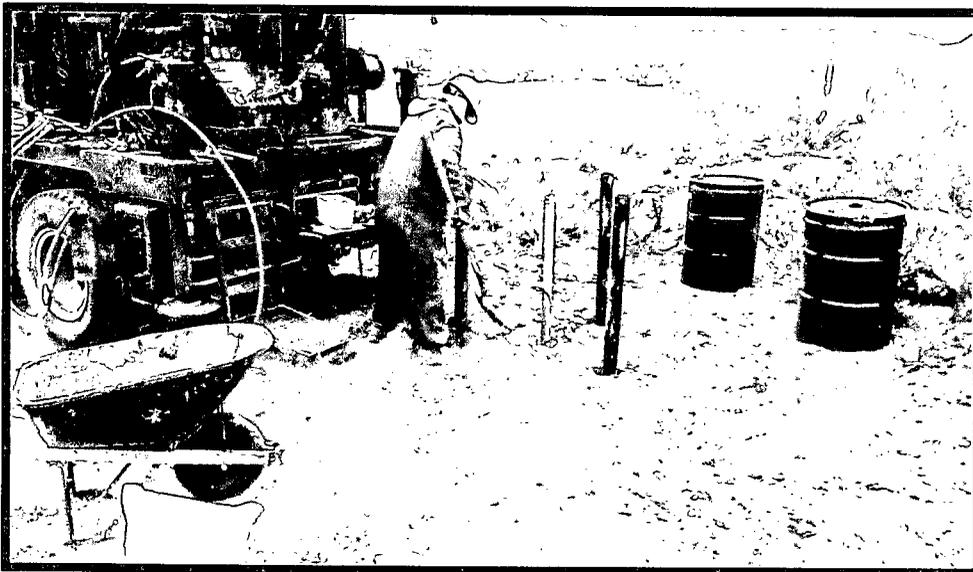
**Photo 2:** Soil Sampling, field screening and characterization equipment and materials.

## Site Photographs

### Enterprise Products Trunk K #3 Monitor Well Installation

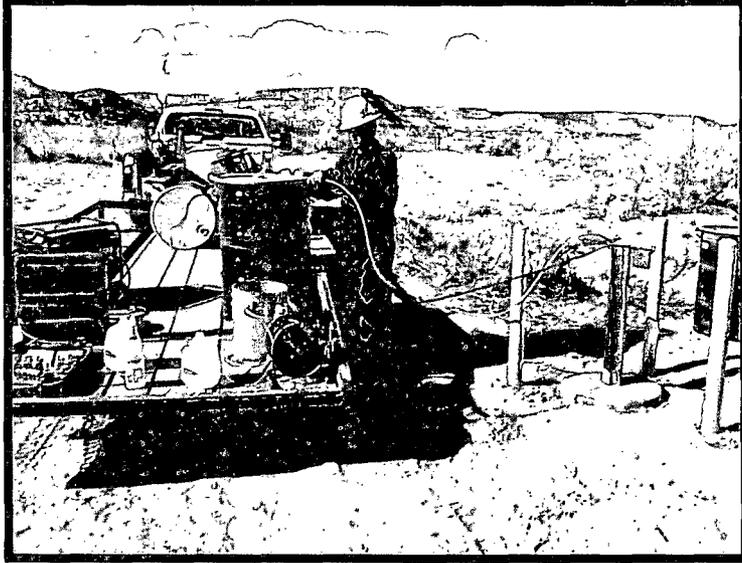


**Photo 3:** Decontamination trailer in foreground, pothole locations staked, boundaries staked and flagged.



**Photo 4:** Installation of bollards around completed Monitor Well, cuttings and decontamination water barreled for removal.

**Site Photographs**  
**Enterprise Products Trunk K #3 Monitor Well Installation**

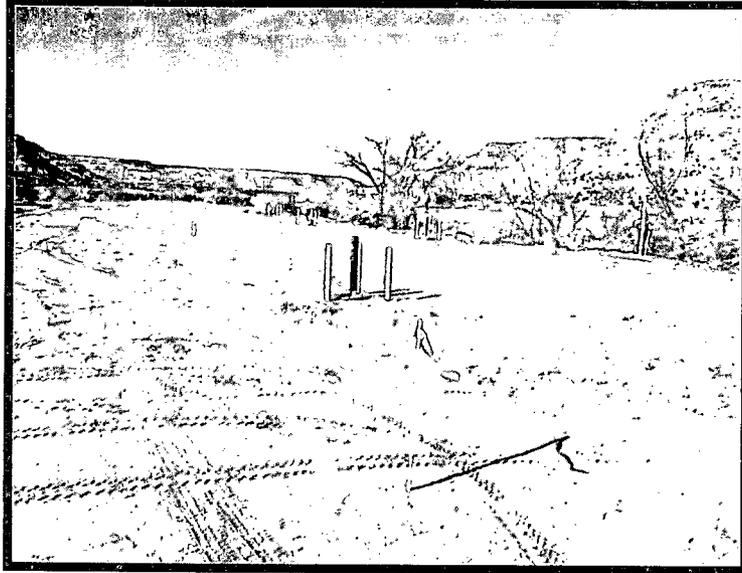


**Photo 5:** Purging well water after surging with slug. Grunfos submersible electric pump used to remove 3 borehole volumes.



**Photo 6:** Hach water quality meter used to monitor stabilization of field parameters Temperature, Conductivity, pH and TDS.

**Site Photographs**  
**Enterprise Products Trunk K #3 Monitor Well Installation**



**Photo 7:** Trunk K #3 Site after installation of 4 monitor wells, boundary delineations with flagged stakes visible in foreground.

**Appendix B**  
**Soil Disposal Documentation**

97057-0685

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

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

Form C-138  
Revised 08/01/11

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

**REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE**

1. **Generator Name and Address:**  
Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. **Originating Site: Trunk K Release Site #3** Jan. 2015

3. **Location of Material (Street Address, City, State or ULSTR):**  
Unit Letter H Section 26 T 27 N R 8W, GPS: 36.545372, -107.644913, San Juan County, NM

4. **Source and Description of Waste:**  
Source: Purged groundwater associated with a groundwater investigation for a natural gas pipeline release.  
Description: Exempt petroleum affected soil from groundwater investigation efforts at pipeline release.  
Estimated Volume 5 yd<sup>3</sup> (bbls) Known Volume (to be entered by the operator at the end of the haul) 4 yd<sup>3</sup> (bbls)

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

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

RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency  Monthly  Weekly  Per Load

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

MSDS Information  RCRA Hazardous Waste Analysis  Process Knowledge  Other (Provide description in Box 4)

**GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS**

I, Jharon Long, 1-22-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete  
**Generator Signature**  
the required testing/sign the Generator Waste Testing Certification.

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

5. **Transporter: TBD** Souder Miller

**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: Kendra Running  
SIGNATURE: Kendra Running  
Surface Waste Management Facility Authorized Agent

TITLE: Waste Coordinator DATE: 1/08/15  
TELEPHONE NO.: 505-632-0615

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

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

97057-0685

Form C-138  
Revised 08/01/11

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

**REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE**

1. Generator Name and Address:  
Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site: Trunk K Release Site #3  
Jan. 2015

3. Location of Material (Street Address, City, State or ULSTR):  
Unit Letter H Section 26 T 27 N R 8W, GPS: 36.545372, -107.644913, San Juan County, NM

4. Source and Description of Waste:  
Source: Natural Gas Pipeline Release  
Description: Exempt petroleum affected soil from groundwater investigation efforts at pipeline release.  
Estimated Volume 5 yd<sup>3</sup> bbls Known Volume (to be entered by the operator at the end of the haul) 21 yd<sup>3</sup> (bbls)

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

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

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

- MSDS Information  RCRA Hazardous Waste Analysis  Process Knowledge  Other (Provide description in Box 4)

**GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS**

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

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

5. Transporter: Nelson Re-Vegetation & Souder Miller

**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: Kendra Runing TITLE: Waste Coordinator DATE: 1/19/15  
SIGNATURE: Kendra Runing TELEPHONE NO.: 505-632-0615  
Surface Waste Management Facility Authorized Agent

**Appendix C**  
**Laboratory Analytical Report**



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

January 27, 2015

Steve Moskal  
Souder, Miller and Associates  
401 W. Broadway  
Farmington, NM 87401  
TEL: (505) 325-5667  
FAX (505) 327-1496

RE: Trunk K #3

OrderNo.: 1501871

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 4 sample(s) on 1/24/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**

Lab Order 1501871

Date Reported: 1/27/2015

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller and Associates**Client Sample ID:** MW-1**Project:** Trunk K #3**Collection Date:** 1/23/2015 11:35:00 AM**Lab ID:** 1501871-001**Matrix:** AQUEOUS**Received Date:** 1/24/2015 11:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	2.0		µg/L	2	1/26/2015 12:35:59 PM	R23891
Toluene	ND	2.0		µg/L	2	1/26/2015 12:35:59 PM	R23891
Ethylbenzene	ND	2.0		µg/L	2	1/26/2015 12:35:59 PM	R23891
Xylenes, Total	ND	4.0		µg/L	2	1/26/2015 12:35:59 PM	R23891
Surr: 4-Bromofluorobenzene	121	66.6-167		%REC	2	1/26/2015 12:35:59 PM	R23891

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: MW-4

Project: Trunk K #3

Collection Date: 1/23/2015 12:00:00 PM

Lab ID: 1501871-002

Matrix: AQUEOUS

Received Date: 1/24/2015 11:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	2.0		µg/L	2	1/26/2015 1:57:27 PM	R23891
Toluene	ND	2.0		µg/L	2	1/26/2015 1:57:27 PM	R23891
Ethylbenzene	ND	2.0		µg/L	2	1/26/2015 1:57:27 PM	R23891
Xylenes, Total	ND	4.0		µg/L	2	1/26/2015 1:57:27 PM	R23891
Surr: 4-Bromofluorobenzene	122	66.6-167		%REC	2	1/26/2015 1:57:27 PM	R23891

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: MW-3

Project: Trunk K #3

Collection Date: 1/23/2015 12:30:00 PM

Lab ID: 1501871-003

Matrix: AQUEOUS

Received Date: 1/24/2015 11:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	2.0		µg/L	2	1/26/2015 2:51:27 PM	R23891
Toluene	ND	2.0		µg/L	2	1/26/2015 2:51:27 PM	R23891
Ethylbenzene	ND	2.0		µg/L	2	1/26/2015 2:51:27 PM	R23891
Xylenes, Total	ND	4.0		µg/L	2	1/26/2015 2:51:27 PM	R23891
Surr: 4-Bromofluorobenzene	120	66.6-167		%REC	2	1/26/2015 2:51:27 PM	R23891

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: MW-2

Project: Trunk K #3

Collection Date: 1/23/2015 1:05:00 PM

Lab ID: 1501871-004

Matrix: AQUEOUS

Received Date: 1/24/2015 11:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	2.0		µg/L	2	1/26/2015 3:18:34 PM	R23891
Toluene	ND	2.0		µg/L	2	1/26/2015 3:18:34 PM	R23891
Ethylbenzene	ND	2.0		µg/L	2	1/26/2015 3:18:34 PM	R23891
Xylenes, Total	ND	4.0		µg/L	2	1/26/2015 3:18:34 PM	R23891
Surr: 4-Bromofluorobenzene	120	66.6-167		%REC	2	1/26/2015 3:18:34 PM	R23891

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1501871

27-Jan-15

**Client:** Souder, Miller and Associates

**Project:** Trunk K #3

Sample ID	<b>5ML RB</b>		SampType:	<b>MBLK</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>				
Client ID:	<b>PBW</b>		Batch ID:	<b>R23891</b>		RunNo:	<b>23891</b>				
Prep Date:			Analysis Date:	<b>1/26/2015</b>		SeqNo:	<b>704777</b>		Units: <b>µg/L</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	2.0									
Surr: 4-Bromofluorobenzene	24		20.00		119	66.6	167				

Sample ID	<b>100NG BTEX LCS</b>		SampType:	<b>LCS</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>				
Client ID:	<b>LCSW</b>		Batch ID:	<b>R23891</b>		RunNo:	<b>23891</b>				
Prep Date:			Analysis Date:	<b>1/26/2015</b>		SeqNo:	<b>704778</b>		Units: <b>µg/L</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	20	1.0	20.00	0	102	80	120				
Toluene	20	1.0	20.00	0	101	80	120				
Ethylbenzene	21	1.0	20.00	0	103	80	120				
Xylenes, Total	62	2.0	60.00	0	104	80	120				
Surr: 4-Bromofluorobenzene	24		20.00		119	66.6	167				

Sample ID	<b>1501871-001AMS</b>		SampType:	<b>MS</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>				
Client ID:	<b>MW-1</b>		Batch ID:	<b>R23891</b>		RunNo:	<b>23891</b>				
Prep Date:			Analysis Date:	<b>1/26/2015</b>		SeqNo:	<b>704780</b>		Units: <b>µg/L</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	41	2.0	40.00	0	103	77.5	121				
Toluene	40	2.0	40.00	0	101	78.6	122				
Ethylbenzene	42	2.0	40.00	0	105	78.1	128				
Xylenes, Total	130	4.0	120.0	0	106	80	120				
Surr: 4-Bromofluorobenzene	47		40.00		119	66.6	167				

Sample ID	<b>1501871-001AMSD</b>		SampType:	<b>MSD</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>				
Client ID:	<b>MW-1</b>		Batch ID:	<b>R23891</b>		RunNo:	<b>23891</b>				
Prep Date:			Analysis Date:	<b>1/26/2015</b>		SeqNo:	<b>704781</b>		Units: <b>µg/L</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	41	2.0	40.00	0	104	77.5	121	0.970	20		
Toluene	42	2.0	40.00	0	104	78.6	122	3.11	20		
Ethylbenzene	43	2.0	40.00	0	107	78.1	128	1.82	20		
Xylenes, Total	130	4.0	120.0	0	107	80	120	0.971	20		
Surr: 4-Bromofluorobenzene	49		40.00		122	66.6	167	0	0		

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit



Hall Environmental Analysis Laboratory  
 4901 Hawkins NE  
 Albuquerque, NM 87106  
 TEL: 505-345-3975 FAX: 505-345-4107  
 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1501871

RecptNo: 1

Received by/date: AT 01/24/15

Logged By: **Lindsay Mangin** 1/24/2015 11:30:00 AM *[Signature]*

Completed By: **Lindsay Mangin** 1/26/2015 8:55:38 AM *[Signature]*

Reviewed By: *[Signature]* 01/26/15

### Chain of Custody

- Custody seals intact on sample bottles? Yes  No  Not Present
- Is Chain of Custody complete? Yes  No  Not Present
- How was the sample delivered? Courier

### Log In

- Was an attempt made to cool the samples? Yes  No  NA
- Were all samples received at a temperature of >0° C to 6.0° C? Yes  No  NA
- Sample(s) in proper container(s)? Yes  No
- Sufficient sample volume for indicated test(s)? Yes  No
- Are samples (except VOA and ONG) properly preserved? Yes  No
- Was preservative added to bottles? Yes  No  NA
- VOA vials have zero headspace? Yes  No  No VOA Vials
- Were any sample containers received broken? Yes  No
- Does paperwork match bottle labels? Yes  No
- Are matrices correctly identified on Chain of Custody? Yes  No
- Is it clear what analyses were requested? Yes  No
- Were all holding times able to be met? Yes  No

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

### Special Handling (if applicable)

- 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	1.2	Good	Yes			

# Chain-of-Custody Record

Client: JMA

Turn-Around Time:  
 Standard     Rush

Mailing Address: 401 W. Broadway  
Farmington, NM 87401

Project Name: Trunk K #3

Phone #: 505-325-7535

Project #: 5122855

Email or Fax #: stewen.msk@soandermiller.com

Project Manager: Stewen Mask

VQC Package:  
 Standard     Level 4 (Full Validation)

Creditation:  
 NELAP     Other \_\_\_\_\_

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

Sampler: 1111

On Ice:  Yes     No

Sample Temperature: 12



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com  
 4901 Hawkins NE - Albuquerque, NM 87109  
 Tel. 505-345-3975    Fax 505-345-4107

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB'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 <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
3/15	1135	GW	MW-1	VOA X3	HCl	1501871 -001	↓											
	1200	↓	MW-4	↓	↓	-002	↓											
	1230	↓	MW-3	↓	↓	-003	↓											
	1305	↓	MW-2	↓	↓	-004	↓											

Relinquished by: [Signature]

Received by: Christi Waale    Date: 3/15    Time: 1725

Remarks: Invoice to Enterprise Products

Relinquished by: Christi Waale

Received by: [Signature]    Date: 11/24/15    Time: 1130

copy Jesse Sprague @ soandermiller.com  
Waste Waale - CoS

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

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

State of New Mexico  
Energy Minerals and Natural  
Resources

Form C-141  
Revised August 8, 2011

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

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company: Enterprise Field Services LLC	Contact: Thomas Long
Address: 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name: Lateral H-8	Facility Type: Natural Gas Gathering Line
Surface Owner: BLM	Mineral Owner: BLM
API No.	

**LOCATION OF RELEASE**

Unit Letter D	Section 33	Township 31N	Range 11W	Feet from the 580	North/South Line	Feet from the 798	East/West Line	County San Juan
------------------	---------------	-----------------	--------------	-------------------------	---------------------	-------------------------	-------------------	--------------------

Latitude 36.861145 Longitude -108.002369

**NATURE OF RELEASE**

Type of Release: Natural Gas	Volume of Release 369.67 MCF	Volume Recovered: None
Source of Release: Vandalism (Pipeline was Shot)	Date and Hour of Occurrence: 3/2/2015 @ 9:45 a.m.	Date and Hour of Discovery: 3/2/2015 @ 9:55 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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 2, 2105, a natural gas pipeline was discovered damaged due to vandalism from an unknown party resulting in a natural gas pipeline leak. Pipeline was isolated, depressurized, and lock out and tag out was implemented. There were no environmental impacts.

Describe Area Affected and Cleanup Action: There were no impacts to the ground surface.

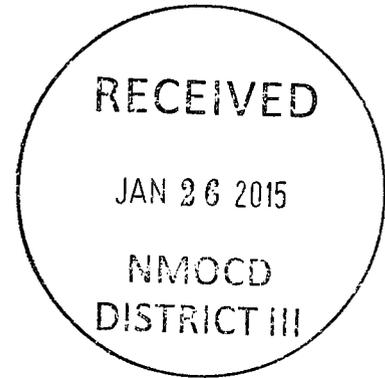
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger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

Signature:	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist:	
Title: Director, Environmental	Approval Date: 5/1/15	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 3-11-15	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

#NCS 1512150108

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**CORRECTIVE ACTION REPORT**

Property:

**Lateral 3C-2 Pipeline Release  
SW 1/4, S7 T28N R12W  
San Juan County, New Mexico**

December 31, 2014  
Apex Project No. 7030414G036

Prepared for:

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

Prepared by:

Handwritten signature of Heather M. Woods in cursive.

Heather M. Woods, P.G.  
Senior Project Manager

Handwritten signature of Elizabeth Scaggs in cursive.

Elizabeth Scaggs, P.G.  
Senior Program Manager

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Figure 2 – Site Vicinity Map  
Figure 3 – Site Map with Sample Locations
- Appendix B:** Executed C-138 Solid Waste Acceptance Forms
- Appendix C:** Photographic Documentation
- Appendix D:** Tables
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Chain of Custody Documentation

## **CORRECTIVE ACTION REPORT**

**Lateral 3C-2 Pipeline Release**  
SW 1/4, S7 T28N R12W  
San Juan County, New Mexico

**Apex Project No. 7030414G036**

### **1.0 INTRODUCTION**

#### **1.1 Site Description & Background**

The Lateral 3C-2 Pipeline Release Site is located within the Enterprise Field Services LLC (Enterprise) pipeline right-of-way (ROW) in the southwest (SW) ¼ of Section 7 in Township 28 North and Range 12 West in rural San Juan County, New Mexico (36.67025N, 108.15848W), referred to hereinafter as the "Site" or "subject Site". The Site is located adjacent to an unpaved road on private land. The Site is surrounded by native vegetation rangeland periodically interrupted with oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately north to south.

On October 29, 2014, Enterprise initiated excavation activities at the Site in an effort to locate and repair a subsurface leak. The leak was subsequently identified and repaired. An unknown quantity of dry natural gas and pipeline liquids were released from the pipeline as a result of internal corrosion. The leak was identified by a gas vapor survey at the ground surface.

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

#### **1.2 Project Objective**

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

### **2.0 SITE RANKING**

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



Ranking Criteria			Ranking Score
Depth to Groundwater	<50 feet	20	<b>10</b>
	50 to 99 feet	10	
	>100 feet	0	
Wellhead Protection Area <1,000 feet from a water source, or; <200 feet from private domestic water source.	Yes	20	<b>0</b>
	No	0	
Distance to Surface Water Body	<200 feet	20	<b>20</b>
	200 to 1,000 feet	10	
	>1,000 feet	0	
<b>Total Ranking Score</b>			<b>30</b>

Based on Apex's evaluation of the scoring criteria, the Site would have a maximum Total Ranking Score of "30". This ranking is based on the following:

- Depth to groundwater is anticipated to be approximately 75 feet below grade surface based on a cathodic protection deepwell groundbed report for the Gallegos Canyon Unit #222 located approximately 930 feet to the northeast of the Site. The cathodic report indicates that groundwater was observed in the borehole at a depth of about 110 feet bgs. The elevation of the Gallegos Canyon Unit #222 location is approximately 35 feet higher in elevation than the Site. No nearby water wells were identified on the Office of the State Engineer (OSE) website database.
- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site.
- The Site is approximately 90 feet west of an ephemeral wash of Stewart Canyon. Based on this proximity, a ranking for distance to surface water was assigned at "20".

### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

On October 29, 2014, Enterprise initiated excavation activities at the Site in an effort to locate and repair a subsurface leak. The leak was subsequently identified and repaired. An unknown quantity of dry natural gas and pipeline liquids were released from the pipeline as a result of internal corrosion. The leak was identified by a gas vapor survey at the ground surface. During the corrective action activities, West States Energy Contractors provided heavy equipment and labor support, and Heather Woods and Kyle Summers, Apex environmental professionals, provided environmental support.

The surface expression of the excavation measured approximately 14 feet long by 12 feet wide, with a total depth of approximately 8 feet bgs.

The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated sand with trace silt and clay.

A total of approximately 52 cubic yards of hydrocarbon affected soils were transported to the Envirotech Landfarm in Hilltop, New Mexico for disposal/remediation. The executed C-138 form is provided in Appendix B. The excavation was backfilled with clean imported fill and contoured to surrounding grade.

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

### 3.2 Soil Sampling Program

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

Apex's soil sampling program included the collection of six (6) final confirmation samples (C-1 through C-6), from the resulting excavation for laboratory analysis. Figure 3 depicts the approximate location of the excavated area and shows the final confirmation sample locations in relation to the final excavation dimensions (Appendix A).

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

### 3.3 Laboratory Analytical Methods

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

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

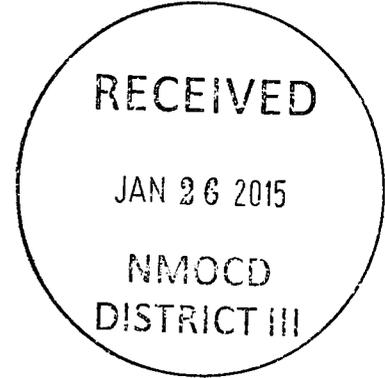
## 4.0 DATA EVALUATION

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

### 4.1 Confirmation Soil Samples

Apex compared the BTEX and TPH concentrations or reporting limits associated with the final confirmation samples (C-1 through C-6) collected from the excavated area to the OCD *Remediation Action Levels* (RALs) for sites having a total ranking score of "30".

- The laboratory analyses of confirmation samples collected from soils remaining in place do not indicate benzene concentrations above the laboratory reporting limits, which are below the OCD *Remediation Action Level*.
- The laboratory analyses of the confirmation samples collected from soils remaining in place do not indicate total BTEX concentrations above the laboratory reporting limits, which are below the OCD *Remediation Action Level*.



**CORRECTIVE ACTION REPORT**

Property:

**Lateral 3C-2 Pipeline Release  
SW 1/4, S7 T28N R12W  
San Juan County, New Mexico**

December 31, 2014  
Apex Project No. 7030414G036

Prepared for:

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

Prepared by:

Handwritten signature of Heather M. Woods in black ink.

Heather M. Woods, P.G.  
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## CORRECTIVE ACTION REPORT

**Lateral 3C-2 Pipeline Release**  
SW 1/4, S7 T28N R12W  
San Juan County, New Mexico

**Apex Project No. 7030414G036**

### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

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Apex compared the BTEX and TPH concentrations or reporting limits associated with the final confirmation samples (C-1 through C-6) collected from the excavated area to the OCD *Remediation Action Levels* (RALs) for sites having a total ranking score of "30".

- The laboratory analyses of confirmation samples collected from soils remaining in place do not indicate benzene concentrations above the laboratory reporting limits, which are below the OCD *Remediation Action Level*.
- The laboratory analyses of the confirmation samples collected from soils remaining in place do not indicate total BTEX concentrations above the laboratory reporting limits, which are below the OCD *Remediation Action Level*.

- The laboratory analyses of the confirmation samples collected from soils remaining in place indicate combined TPH GRO/DRO concentrations ranging from below the laboratory reporting limits to 21 milligrams/Kilogram (mg/Kg), which are below the OCD *Remediation Action Level* for a Site ranking of "30".

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

## 5.0 FINDINGS AND RECOMMENDATIONS

The Lateral 3C-2 Pipeline Release Site is located within the Enterprise ROW in the SW ¼ of Section 7 in Township 28 North and Range 12 West in rural San Juan County, New Mexico (36.67025N, 108.15848W). The Site is located adjacent to an unpaved road on private land. The Site is surrounded by native vegetation rangeland periodically interrupted with oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately north to south.

On October 29, 2014, Enterprise initiated excavation activities at the Site in an effort to locate and repair a subsurface leak. The leak was subsequently identified and repaired. An unknown quantity of dry natural gas and pipeline liquids were released from the pipeline as a result of internal corrosion. The leak was identified by a gas vapor survey at the ground surface.

- The primary objective of the corrective actions was to reduce the concentration of COCs in the on-Site soils to below the New Mexico EMNRD OCD RALs using the New Mexico EMNRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases* as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated sand with trace silt and clay.
- The surface expression of the excavation measured approximately 14 feet long by 12 feet wide, with a total depth of approximately 8 feet bgs.
- Prior to backfilling, six (6) final confirmation samples were collected from the resulting excavation for laboratory analyses. Based on analytical results, soils remaining in place do not exhibit COC concentrations above the OCD *Remediation Action Levels* for a Site ranking of "30".
- A total of approximately 52 cubic yards of hydrocarbon affected soils were transported to the Envirotech Landfarm in Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with clean imported fill and contoured to surrounding grade.

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

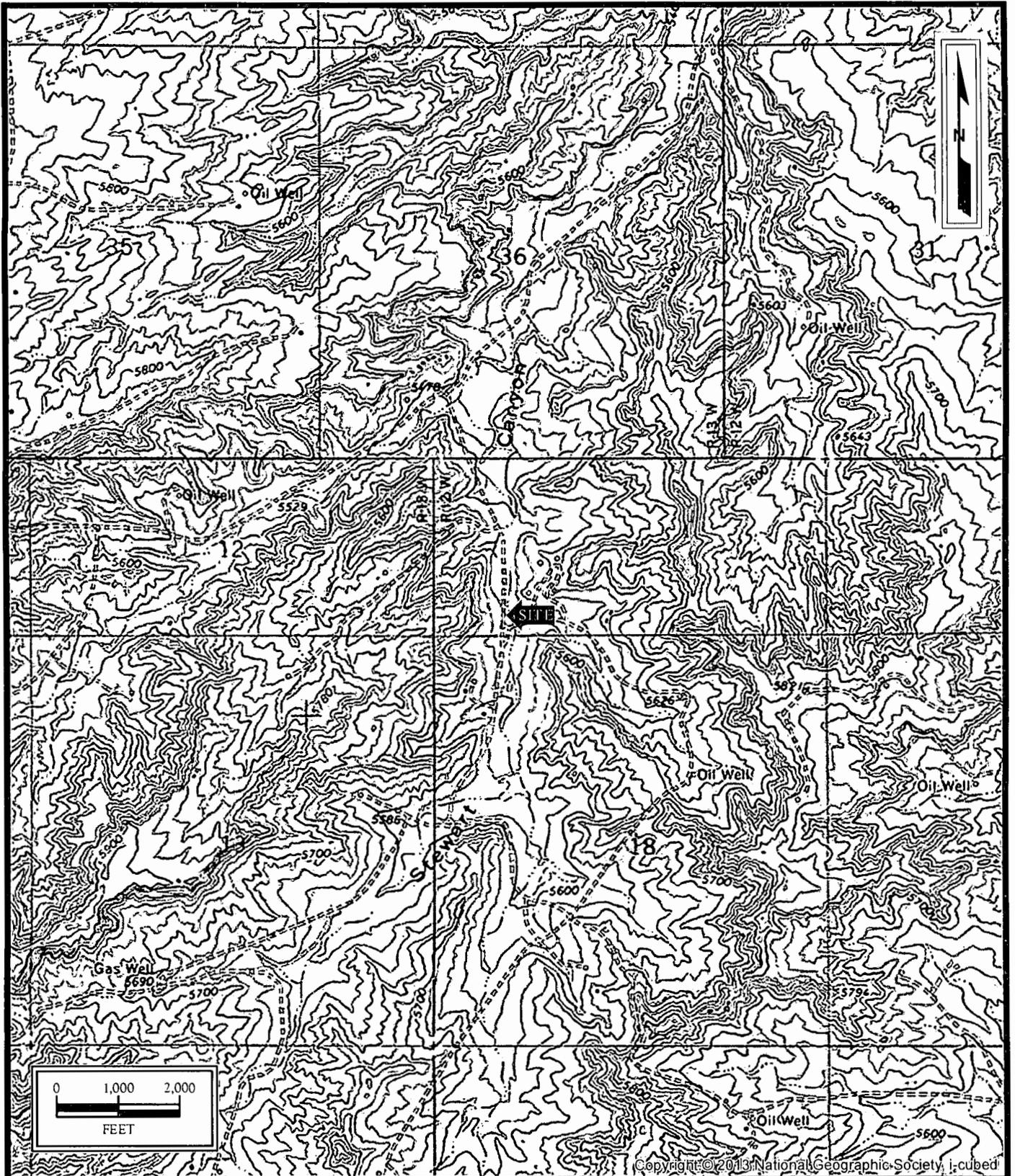
## 6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

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



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

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



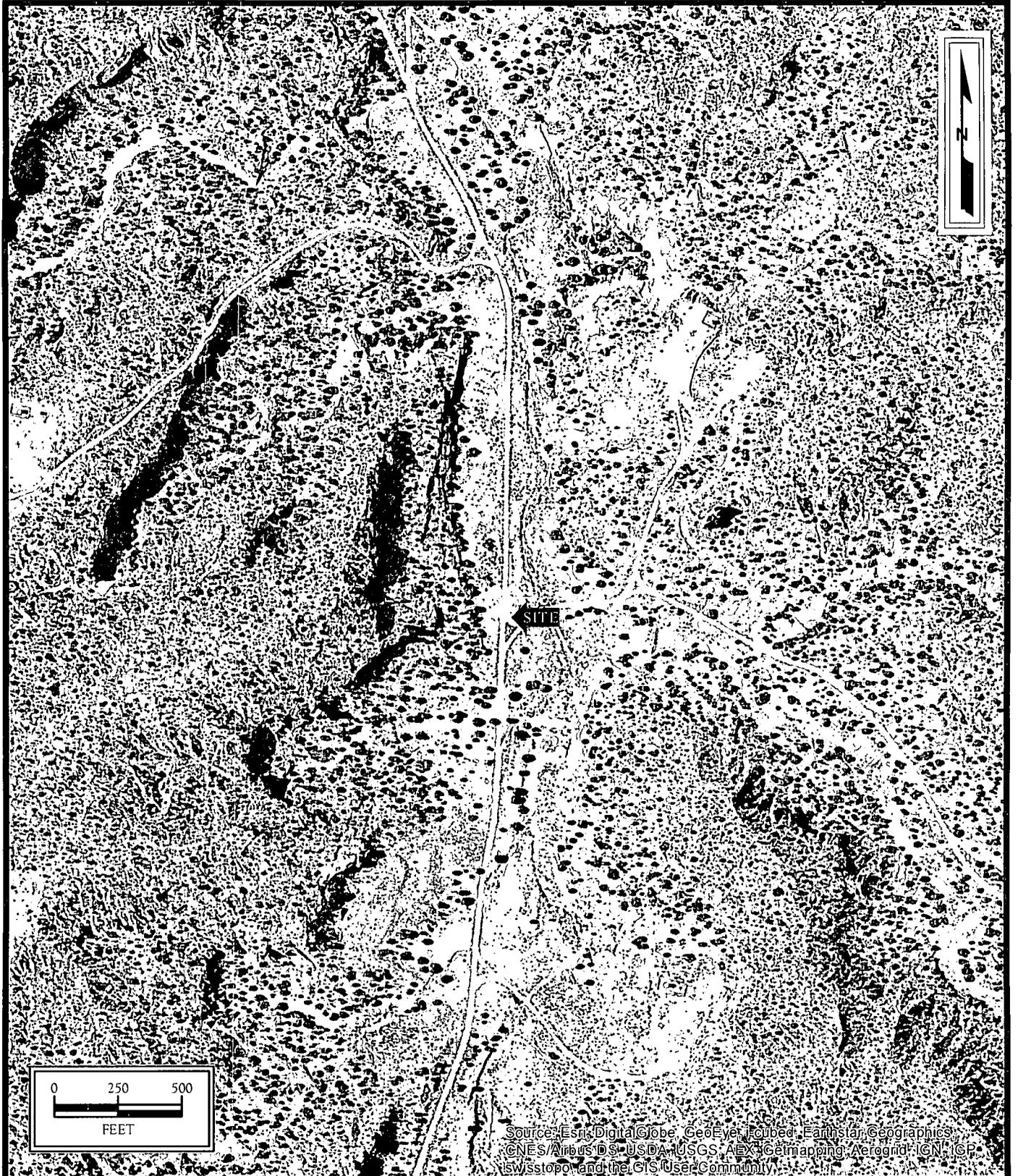
**Lateral 3C-2 Pipeline Release**  
 SW1/4 Sec7 T28N R12W  
 Rural San Juan County, New Mexico  
 36.67025N, 108.15848W

Project No. 7030414G036.001



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

**FIGURE 1**  
**Topographic Map**  
 Farmington South, NM Quadrangle  
 1965



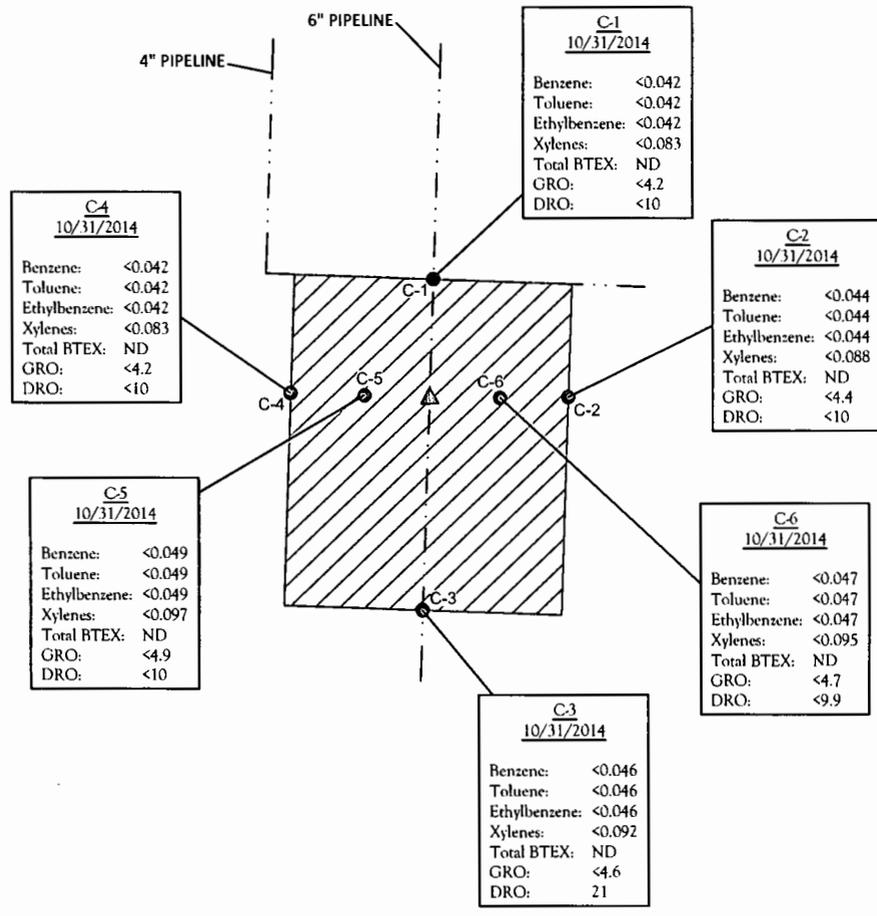
**Lateral 3C-2 Pipeline Release**  
 SW1/4 Sec7 T28N R12W  
 Rural San Juan County, New Mexico  
 36.67025N, 108.15848W

Project No. 7030414G036.001



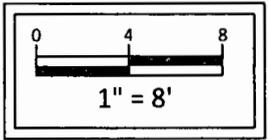
**Apex TITAN, Inc.**  
 606 South Rio Grande, Suite A  
 Aztec, NM 87410  
 Phone: (505) 334-5200  
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 A Subsidiary of Apex Companies, LLC

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



**LEGEND:**

- PIPELINE
- SAMPLE LOCATION
- ▲ RELEASE POINT
- ▨ EXTENT OF EXCAVATION



NOTE: ALL VALUES ARE REPRESENTED IN mg/kg

**Lateral 3C-2 Pipeline Release**  
SW1/4 Sec7 T28N R12W  
Rural San Juan County, New Mexico  
36.67025N, 108.15848W

Project No. 7030414G036.001



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A Subsidiary of Apex Companies, LLC

**FIGURE 3**  
**Site Map with**  
**Sample Locations**

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 97257-0672 Form C-138  
Revised August 1, 2011  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505  
\*Surface Waste Management Facility Operator  
and Generator shall maintain and make this  
documentation available for Division inspection.

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401	Oct. 2014
2. Originating Site: Lateral 3C-2 Pipeline	
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter N, Section 7, T28N, R12W; 36.67025, -108.15848	
4. Source and Description of Waste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline.	
5. Estimated Volume <u>50</u> (yd <sup>3</sup> ) bbls Known Volume (to be entered by the operator at the end of the haul) <u>52</u> (yd <sup>3</sup> ) bbls	
<b>5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS</b>	
I, <u>Thomas Long</u> <i>Thomas Long</i> representative or authorized agent for <u>Enterprise Field Services, LLC</u> do hereby PRINT & SIGN NAME COMPANY NAME certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)	
<input checked="" type="checkbox"/> RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non- exempt waste. <u>Operator Use Only: Waste Acceptance Frequency</u> <input type="checkbox"/> Monthly <input type="checkbox"/> Weekly <input type="checkbox"/> Per Load	
<input type="checkbox"/> RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)	
<input type="checkbox"/> MSDS Information <input type="checkbox"/> RCRA Hazardous Waste Analysis <input type="checkbox"/> Process Knowledge <input type="checkbox"/> Other (Provide description in Box 4)	
<b>GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS</b>	
I, <u>Thomas Long</u> <i>Thomas Long</i> <u>10-29-14</u> , representative for <u>Enterprise Field Services, LLC</u> authorize Envirotech, Inc. to Generator Signature complete the required testing/sign the Generator Waste Testing Certification.	
I, <u>Kendra Runung</u> <i>Kendra Runung</i> representative for <u>Envirotech, Inc.</u> do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.	
6. Transporter: <u>West State Entergy Contractors Foutz + Bursum</u>	

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

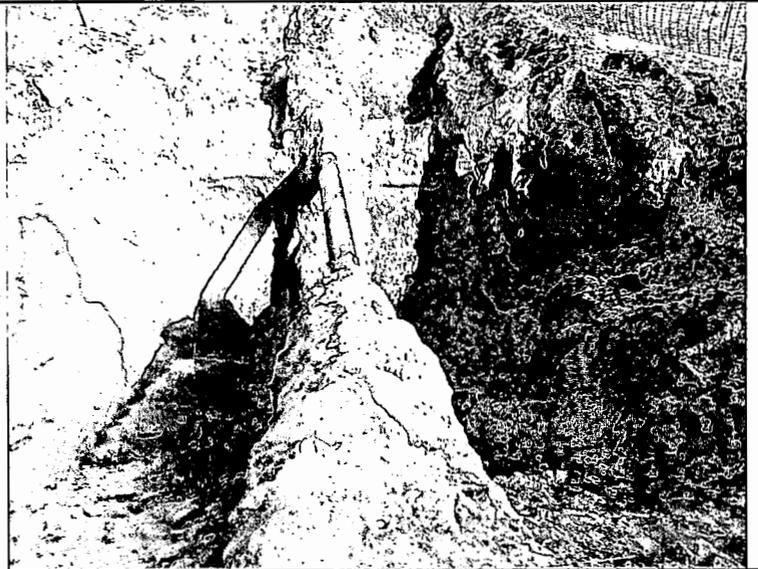
Method of Treatment and/or Disposal:  
 Evaporation  Injection  Treating Plant  Landfarm  Landfill  Other

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

PRINT NAME: Kendra Runung TITLE: Waste Coordinator DATE: 10/30/14  
SIGNATURE: Kendra Runung TELEPHONE NO.: 505-632-0615  
Surface Waste Management Facility Authorized Agent

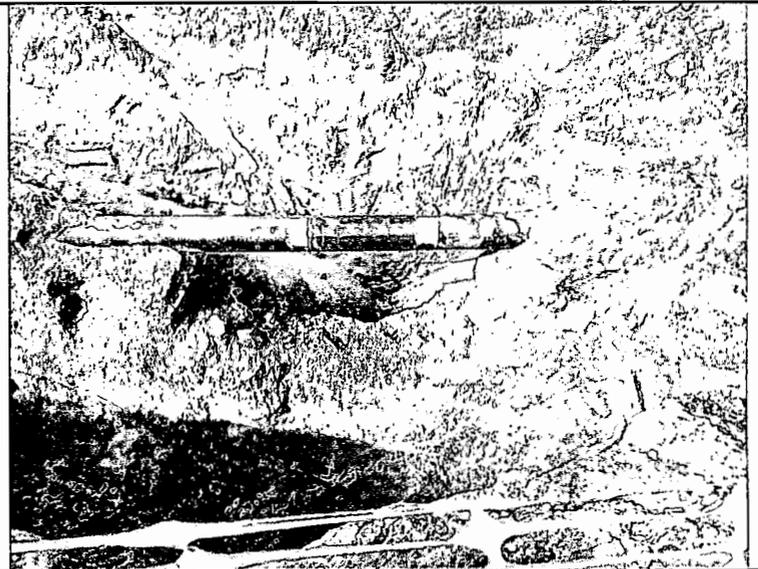
**Photograph 1**

View of the final excavation at the completion of corrective action activities, facing north.



**Photograph 2**

View of the final excavation at the completion of corrective action activities, facing west.





**TABLE 1**  
**Lateral 3C-2 Pipeline Release**  
**SOIL ANALYTICAL SUMMARY**

Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			10	NE	NE	NE	50	100	
Excavation Confirmation Samples									
C-1	10/31/2014	3 to 8	<0.042	<0.042	<0.042	<0.083	ND	<4.2	<10
C-2	10/31/2014	3 to 8	<0.044	<0.044	<0.044	<0.088	ND	<4.4	<10
C-3	10/31/2014	3 to 8	<0.046	<0.046	<0.046	<0.092	ND	<4.6	21
C-4	10/31/2014	3 to 8	<0.042	<0.042	<0.042	<0.083	ND	<4.2	<10
C-5	10/31/2014	8	<0.049	<0.049	<0.049	<0.097	ND	<4.9	<10
C-6	10/31/2014	8	<0.047	<0.047	<0.047	<0.095	ND	<4.7	<9.9

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

ND = Not Detected above the Laboratory Reporting Limits



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

November 03, 2014

Heather Woods  
APEX AZTEC  
606 S. Rio Grande Unit A  
Aztec, NM 87410  
TEL: (505) 716-2787  
FAX (505) 334-5204

RE: Enterprise Lateral 3C-2

OrderNo.: 1411001

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 6 sample(s) on 11/1/2014 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX AZTEC

Client Sample ID: C-1

Project: Enterprise Lateral 3C-2

Collection Date: 10/31/2014 10:20:00 AM

Lab ID: 1411001-001

Matrix: SOIL

Received Date: 11/1/2014 11:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/3/2014 1:16:10 PM	16187
Surr: DNOP	86.9	63.5-128		%REC	1	11/3/2014 1:16:10 PM	16187
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	11/1/2014 2:26:13 PM	R22281
Surr: BFB	99.5	80-120		%REC	1	11/1/2014 2:26:13 PM	R22281
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	ND	0.042		mg/Kg	1	11/1/2014 2:26:13 PM	R22281
Toluene	ND	0.042		mg/Kg	1	11/1/2014 2:26:13 PM	R22281
Ethylbenzene	ND	0.042		mg/Kg	1	11/1/2014 2:26:13 PM	R22281
Xylenes, Total	ND	0.083		mg/Kg	1	11/1/2014 2:26:13 PM	R22281
Surr: 4-Bromofluorobenzene	98.1	80-120		%REC	1	11/1/2014 2:26:13 PM	R22281

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** APEX AZTEC

**Client Sample ID:** C-2

**Project:** Enterprise Lateral 3C-2

**Collection Date:** 10/31/2014 10:11:00 AM

**Lab ID:** 1411001-002

**Matrix:** SOIL

**Received Date:** 11/1/2014 11:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/3/2014 11:06:57 AM	16187
Surr: DNOP	87.5	63.5-128		%REC	1	11/3/2014 11:06:57 AM	16187
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	11/1/2014 2:54:45 PM	R22281
Surr: BFB	93.5	80-120		%REC	1	11/1/2014 2:54:45 PM	R22281
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	ND	0.044		mg/Kg	1	11/1/2014 2:54:45 PM	R22281
Toluene	ND	0.044		mg/Kg	1	11/1/2014 2:54:45 PM	R22281
Ethylbenzene	ND	0.044		mg/Kg	1	11/1/2014 2:54:45 PM	R22281
Xylenes, Total	ND	0.088		mg/Kg	1	11/1/2014 2:54:45 PM	R22281
Surr: 4-Bromofluorobenzene	95.3	80-120		%REC	1	11/1/2014 2:54:45 PM	R22281

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Analytical Report

Lab Order 1411001

Date Reported: 11/3/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX AZTEC

Client Sample ID: C-3

Project: Enterprise Lateral 3C-2

Collection Date: 10/31/2014 10:16:00 AM

Lab ID: 1411001-003

Matrix: SOIL

Received Date: 11/1/2014 11:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: JME
Diesel Range Organics (DRO)	21	10		mg/Kg	1	11/3/2014 1:37:47 PM	16187
Surr: DNOP	101	63.5-128		%REC	1	11/3/2014 1:37:47 PM	16187
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/1/2014 3:23:24 PM	R22281
Surr: BFB	95.4	80-120		%REC	1	11/1/2014 3:23:24 PM	R22281
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.046		mg/Kg	1	11/1/2014 3:23:24 PM	R22281
Toluene	ND	0.046		mg/Kg	1	11/1/2014 3:23:24 PM	R22281
Ethylbenzene	ND	0.046		mg/Kg	1	11/1/2014 3:23:24 PM	R22281
Xylenes, Total	ND	0.092		mg/Kg	1	11/1/2014 3:23:24 PM	R22281
Surr: 4-Bromofluorobenzene	96.5	80-120		%REC	1	11/1/2014 3:23:24 PM	R22281

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

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: APEX AZTEC

Client Sample ID: C-4

Project: Enterprise Lateral 3C-2

Collection Date: 10/31/2014 10:09:00 AM

Lab ID: 1411001-004

Matrix: SOIL

Received Date: 11/1/2014 11:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/3/2014 9:41:13 AM	16187
Surr: DNOP	89.1	63.5-128		%REC	1	11/3/2014 9:41:13 AM	16187
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	11/1/2014 3:52:00 PM	R22281
Surr: BFB	94.7	80-120		%REC	1	11/1/2014 3:52:00 PM	R22281
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.042		mg/Kg	1	11/1/2014 3:52:00 PM	R22281
Toluene	ND	0.042		mg/Kg	1	11/1/2014 3:52:00 PM	R22281
Ethylbenzene	ND	0.042		mg/Kg	1	11/1/2014 3:52:00 PM	R22281
Xylenes, Total	ND	0.083		mg/Kg	1	11/1/2014 3:52:00 PM	R22281
Surr: 4-Bromofluorobenzene	96.2	80-120		%REC	1	11/1/2014 3:52:00 PM	R22281

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX AZTEC

Client Sample ID: C-5

Project: Enterprise Lateral 3C-2

Collection Date: 10/31/2014 10:06:00 AM

Lab ID: 1411001-005

Matrix: SOIL

Received Date: 11/1/2014 11:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/3/2014 10:02:41 AM	16187
Surr: DNOP	91.9	63.5-128		%REC	1	11/3/2014 10:02:41 AM	16187
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/1/2014 4:20:37 PM	R22281
Surr: BFB	91.8	80-120		%REC	1	11/1/2014 4:20:37 PM	R22281
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	ND	0.049		mg/Kg	1	11/1/2014 4:20:37 PM	R22281
Toluene	ND	0.049		mg/Kg	1	11/1/2014 4:20:37 PM	R22281
Ethylbenzene	ND	0.049		mg/Kg	1	11/1/2014 4:20:37 PM	R22281
Xylenes, Total	ND	0.097		mg/Kg	1	11/1/2014 4:20:37 PM	R22281
Surr: 4-Bromofluorobenzene	93.8	80-120		%REC	1	11/1/2014 4:20:37 PM	R22281

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Analytical Report

Lab Order 1411001

Date Reported: 11/3/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX AZTEC

Client Sample ID: C-6

Project: Enterprise Lateral 3C-2

Collection Date: 10/31/2014 10:03:00 AM

Lab ID: 1411001-006

Matrix: SOIL

Received Date: 11/1/2014 11:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/3/2014 1:59:15 PM	16187
Surr: DNOP	95.1	63.5-128		%REC	1	11/3/2014 1:59:15 PM	16187
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/1/2014 4:49:11 PM	R22281
Surr: BFB	92.4	80-120		%REC	1	11/1/2014 4:49:11 PM	R22281
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	ND	0.047		mg/Kg	1	11/1/2014 4:49:11 PM	R22281
Toluene	ND	0.047		mg/Kg	1	11/1/2014 4:49:11 PM	R22281
Ethylbenzene	ND	0.047		mg/Kg	1	11/1/2014 4:49:11 PM	R22281
Xylenes, Total	ND	0.095		mg/Kg	1	11/1/2014 4:49:11 PM	R22281
Surr: 4-Bromofluorobenzene	94.4	80-120		%REC	1	11/1/2014 4:49:11 PM	R22281

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411001

03-Nov-14

Client: APEX AZTEC  
Project: Enterprise Lateral 3C-2

Sample ID	<b>MB-16187</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>16187</b>	RunNo:	<b>22285</b>					
Prep Date:	<b>10/31/2014</b>	Analysis Date:	<b>11/3/2014</b>	SeqNo:	<b>656934</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	8.5		10.00		84.7	63.5	128			

Sample ID	<b>LCS-16187</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>16187</b>	RunNo:	<b>22285</b>					
Prep Date:	<b>10/31/2014</b>	Analysis Date:	<b>11/3/2014</b>	SeqNo:	<b>657003</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.1	68.6	130			
Surr: DNOP	3.9		5.000		78.6	63.5	128			

### Qualifiers:

- |   |  |
|---|--|
| * Value exceeds Maximum Contaminant Level.        | B Analyte detected in the associated Method Blank    |
| E Value above quantitation range                  | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits      | ND Not Detected at the Reporting Limit               |
| O RSD is greater than RSDlimit                    | P Sample pH greater than 2.                          |
| R RPD outside accepted recovery limits            | RL Reporting Detection Limit                         |
| S Spike Recovery outside accepted recovery limits |  |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411001

03-Nov-14

Client: APEX AZTEC  
Project: Enterprise Lateral 3C-2

Sample ID	<b>MB-16188 MK</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R22281</b>	RunNo:	<b>22281</b>					
Prep Date:		Analysis Date:	<b>11/1/2014</b>	SeqNo:	<b>656346</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.4	80	120			

Sample ID	<b>LCS-16188 MK</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R22281</b>	RunNo:	<b>22281</b>					
Prep Date:		Analysis Date:	<b>11/1/2014</b>	SeqNo:	<b>656347</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	115	65.8	139			
Surr: BFB	1000		1000		99.8	80	120			

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411001

03-Nov-14

Client: APEX AZTEC  
Project: Enterprise Lateral 3C-2

Sample ID	MB-16188 MK	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	R22281	RunNo:	22281					
Prep Date:		Analysis Date:	11/1/2014	SeqNo:	656408	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.96		1.000		96.3	80	120			

Sample ID	LCS-16188 MK	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	R22281	RunNo:	22281					
Prep Date:		Analysis Date:	11/1/2014	SeqNo:	656409	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.050	1.000	0	89.5	80	120			
Toluene	0.89	0.050	1.000	0	89.2	80	120			
Ethylbenzene	0.95	0.050	1.000	0	94.5	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.9	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: APEX AZTEC

Work Order Number: 1411001

RcptNo: 1

Received by/date: AT 11/01/14

Logged By: Anne Thorne 11/1/2014 11:30:00 AM *Anne Thorne*

Completed By: Anne Thorne 11/1/2014 *Anne Thorne*

Reviewed By: AT 11/01/14

**Chain of Custody**

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

**Log In**

- 4. Was an attempt made to cool the samples? Yes  No  NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 6. Sample(s) in proper container(s)? Yes  No
- 7. Sufficient sample volume for indicated test(s)? Yes  No
- 8. Are samples (except VOA and ONG) properly preserved? Yes  No
- 9. Was preservative added to bottles? Yes  No  NA
- 10. VOA vials have zero headspace? Yes  No  No VOA Vials
- 11. Were any sample containers received broken? Yes  No
- 12. Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (If applicable)**

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

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

17. Additional remarks:

**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Yes			

CHAIN OF CUSTODY RECORD

**APEX**  
Office Location Aztec, N.M.

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

ANALYSIS  
REQUESTED

Lab use only  
Due Date: 1-8  
Temp. of coolers when received (C°):  
1 2 3 4 5  
Page \_\_\_\_\_ of \_\_\_\_\_

Project Manager Kyle Summers Sampler's Signature  
Heather Woods Heather M. Woods

Proj. No. 70304146036.001 Project Name Enterprise Lateral 3C-2 No/Type of Containers 4 oz

Matrix	Date	Time	COE P	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AG 1L	250 ml	Glass Jar	P/O
S	10/31/14	1020			C-1						1	
S	10/31/14	1011			C-2						1	
S	10/31/14	1016			C-3						1	
S	10/31/14	1009			C-4						1	
S	10/31/14	1006			C-5						1	
S	10/31/14	1003			C-6						1	

8021 BTEX  
8015 TPH (GRO/DRD)

Lab Sample ID (Lab Use Only)

1711001 -001  
-002  
-003  
-004  
-005  
-006

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

Relinquished by (Signature) <u>Heather M. Woods</u>	Date: <u>10/31/14</u>	Time: <u>1347</u>	Received by (Signature) <u>[Signature]</u>	Date: <u>10/31/14</u>	Time: <u>1347</u>
Relinquished by (Signature) <u>[Signature]</u>	Date: <u>10/31/14</u>	Time: <u>1400</u>	Received by (Signature) <u>Christine Wegerle</u>	Date: <u>10/31/14</u>	Time: <u>1406</u>
Relinquished by (Signature) <u>[Signature]</u>	Date: <u>10/31/14</u>	Time: <u>1745</u>	Received by (Signature) <u>[Signature]</u>	Date: <u>11/01/14</u>	Time: <u>1130</u>
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:

NOTES: Direct Bill to Enterprise Field Services  
Attn: Tom Long

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

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

State of New Mexico  
Energy Minerals and Natural  
Resources

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

Form C-141  
Revised August 8, 2011

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company: Enterprise Field Services LLC	Contact: Thomas Long
Address: 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name: Lateral C-7	Facility Type: Natural Gas Gathering Line

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

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	1	27N	9W	417		2370		San Juan

Latitude 36.610148

Longitude 107.740565

**NATURE OF RELEASE**

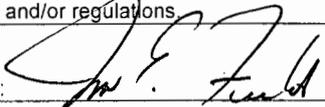
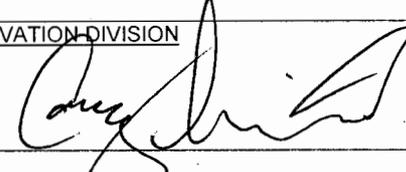
Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release: <b>Unknown Amount of Gas; 25-50 BBLs fluids</b>	Volume Recovered: <b>Unknown</b>
Source of Release: Cracked weld on the pipeline	Date and Hour of Occurrence: <b>3/3/2015 @ 12:10 p.m.</b>	Date and Hour of Discovery: <b>3/3/2015 @ 3:30 p.m.</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <b>NMOCD - Cory Smith; BLM - Shari Ketcham; San Juan County Sheriff's Department; LEPC</b>	
By Whom? <b>Thomas Long</b>	Date and Hour: <b>3/3/2015 @ 2:15 p.m.</b>	
Was a Watercourse Reached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse Estimated 1-2 BBLs	

If a Watercourse was Impacted, Describe Fully. \*Fluids released from the pipeline entered a small unclassified ephemeral wash.

Describe Cause of Problem and Remedial Action: On March 3, 2015, a third party reported pipeline release on the Lateral C-7. Enterprise technicians confirmed the release. The pipeline was isolated, depressurized, locked out and tagged out to mitigate any safety and environmental hazards. The release was a result of cracked weld on the pipeline.

Describe Area Affected and Cleanup Action Taken. \* An area of approximately fifty (50) feet long by fifty (50) feet wide within in the pipeline right-of-way was impacted by the released fluids. The fluids migrated along the bar ditches on both sides of the county road for approximately seventy-five (75) feet. Fluids migrated into a small unclassified ephemeral wash approximately thirty (30) feet and along the ground surface adjacent to the unclassified ephemeral wash for approximately seventy-five (75) feet. Enterprise implemented emergency response actions that included removal of standing liquids and sludge from the ground surface by utilizing a hydro excavator and construction of earthen berms to prevent lateral surficial migration of contaminants. All hydrocarbon impacted fluids and sludge was transported to a New Mexico Oil Conservation approved land farm facility. Subsurface impacts are unknown and will be assessed during the remediation phase of the repair activities. A third party corrective action report will be submitted with the "Final" C-141.

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

Signature: 	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: <u>4/7/15</u>	Expiration Date: _____
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <u>3-11-15</u>	Phone: (713)381-6684	

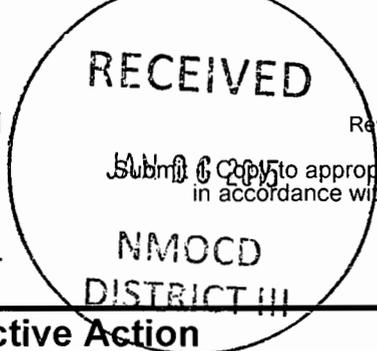
\* Attach Additional Sheets If Necessary

# 1509730925



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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company: Enterprise Field Services LLC	Contact: Thomas Long
Address: 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name: Lateral 3C-2 Release Site	Facility Type: Natural Gas Gathering Line

Surface Owner: Private with a BLM Managed ROW	Mineral Owner: BLM	API No.
---	--------------------	---------

**LOCATION OF RELEASE**

Unit Letter P	Section 7	Township 28N	Range 12W	Feet from the 272	North/South Line	Feet from the 261	East/West Line	County San Juan
------------------	--------------	-----------------	--------------	----------------------	---------------------	----------------------	-------------------	--------------------

Latitude 36.67025 Longitude -108.15848

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release 3.60 MCF Gas; 3-5 BBLs fluids	Volume Recovered: None
Source of Release: Internal Corrosion	Date and Hour of Occurrence: 10/29/2014 @ 9:00 a.m.	Date and Hour of Discovery: 10/29/2014 @ 9:50 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 to NMOCD - Cory Smith and BLM - Shari Ketcham	
By Whom? Thomas Long	Date and Hour 10/29/2014 @ 5:43 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.\*  
Describe Cause of Problem and Remedial Action: On October 29, 2014, Enterprise technicians confirmed a leak on the Lateral 3C-2 pipeline. The line was isolated and de-pressurized and lock out tag out was applied. The repairs and remediation were completed on October 31, 2014. The final excavation dimensions measured approximately fourteen (14) feet long by twelve (12) by eight (8) feet deep. Approximately 52 cubic yards of hydrocarbon impacted soil was excavated and transported to a NMOCD approved land farm facility.

Describe Area Affected and Cleanup Action: On October 29, 2014, On October 29, 2014, Enterprise technicians confirmed a leak on the Lateral 3C-2 pipeline. The line was isolated and de-pressurized and lock out tag out was applied. The repairs and remediation were completed on October 31, 2014. The final excavation dimensions measured approximately fourteen (14) feet long by twelve (12) by eight (8) feet deep. Approximately 52 cubic yards of hydrocarbon impacted soil was excavated and transported to a NMOCD approved land farm facility. A third party corrective action report is included with this "Final" C-141.

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

Signature:	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon Fields	Approved by Environmental Specialist:	
Title: Director, Environmental	Approval Date: 3/23/15	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 1/21/2015	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

#NCS 1508252724

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