

**3R-1011**

**Release Report/ General  
Correspondence**

**Enterprise SJ**

**Date: Apr-Jun 2015**

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

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

APR 17 2015

Form C-141  
Revised August 8, 2011

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company: Enterprise Field Services LLC	Contact: Thomas Long
Address: 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name: Richardson #3 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 <b>N</b>	Section <b>2</b>	Township <b>27N</b>	Range <b>13W</b>	Feet from the <b>1313</b>	North <del>South</del> Line	Feet from the <b>2483</b>	East <del>West</del> Line	County <b>San Juan</b>
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Latitude 36.600598 Longitude -108.189110

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural	Volume of Release: <b>Unknown</b>	Volume Recovered: <b>Unknown</b>
Source of Release: Suspected Internal Corrosion	Date and Hour of Occurrence: <b>3/22/2015 @ 2:50 p.m.</b>	Date and Hour of Discovery: <b>3/22/2015 @ 3:50 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: On March 22, 2015, Enterprise technicians confirmed a leak on Richardson #3 pipeline. The pipeline was isolated, de-pressurized and lock out tag out was applied. Repairs and remediation are currently in the scheduling process. A third party environmental contractor will oversee excavation activities and collected closure samples.

Describe Area Affected and Cleanup Action: An area of approximately ten (10) square feet of soil staining was observed at the ground surface. 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>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: <u>4/30/15</u>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <u>4-1-2015</u> Phone: (713)381-6684		

\* Attach Additional Sheets If Necessary

# NCS 15120 30215

District I  
1625 N. French Dr., Hobbs, NM 88240  
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811 S. First St., Artesia, NM 88210  
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State of New Mexico  
Energy Minerals and Natural  
Resources

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

OIL CONS. DIV DIST. 3

APR 06 2015

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

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: Cedar Hill Compressor Station	Facility Type: Natural Gas Compression

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

Unit Letter N	Section 29	Township 32N	Range 10W	Feet from the North Line 257	South	Feet from the East Line 2125	West	County San Juan
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Latitude 36.949607 Longitude 107.907590

#### NATURE OF RELEASE

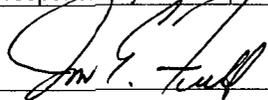
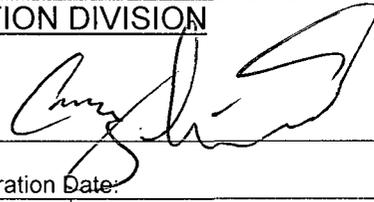
Type of Release: Natural Gas	Volume of Release: 23,600 MCF	Volume Recovered: None
Source of Release: Failed Suction Valve	Date and Hour of Occurrence: 3/21/2015 @ 2:30 p.m.	Date and Hour of Discovery: 3/23/2015 @ 9:30 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Cory Smith - NMOCD; Shari Ketcham - BLM	
By Whom? Thomas Long	Date and Hour: 3/23/2015 @ 2:36 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 March 23, 2015, Enterprise observed gas loss at the Cedar Hill Compressor Station. A technician was dispatched to investigate. The technician discovered the suction valve failed on Unit #2 allowing gas to emit to atmosphere.

Describe Area Affected and Cleanup Action Taken.\* No fluids were released and no surface impacts were observed. No further action is necessary.

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: 5/8/15	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 3-27-15	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

#NCS 151285 6900

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District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
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1000 Rio Brazos Road, Aztec, NM 87410  
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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  
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**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company: Enterprise Field Services LLC	Contact: Thomas Long
Address: 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name: Maddox WN Federal #10	Facility Type: Natural Gas Gathering Pipeline
Surface Owner: BLM	Mineral Owner: BLM
API No.	

**LOCATION OF RELEASE**

Unit Letter <b>M</b>	Section <b>13</b>	Township <b>30N</b>	Range <b>13W</b>	Feet from the <b>87</b>	North/South Line <b>South</b>	Feet from the <b>528</b>	East/West Line <b>West</b>	County <b>San Juan</b>
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OIL CONS. DIV DIST. 3

Latitude 36.80630 Longitude 108.16404

MAY 11 2015

**NATURE OF RELEASE**

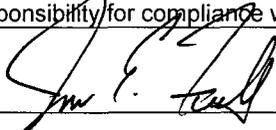
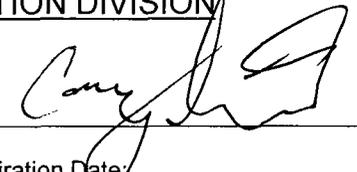
Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release: <b>Unknown</b>	Volume Recovered: <b>None</b>
Source of Release: Suspected internal corrosion	Date and Hour of Occurrence: <b>4/23/2015 @ 6:30 p.m.</b>	Date and Hour of Discovery: <b>4/23/2015 @ 6:30 p.m.</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom? <b>Thomas Long</b>	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 April 23, 2015, Enterprise was notified of a possible gas release on the Maddox WN Federal #10 pipeline by a third party. Technicians were dispatched and confirmed the release. The pipeline was isolated, depressurized, locked out and tagged out. Repairs are currently being scheduled and subsurface impacts will be evaluated during repair activities.

Describe Area Affected and Cleanup Action Taken.\* There were no fluids or staining observed at the ground surface. Subsurface impacts will be evaluated during repair activities.

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

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

\* Attach Additional Sheets If Necessary

#NCS 1512650361

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District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
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State of New Mexico  
Energy Minerals and Natural  
Resources

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Revised August 8, 2011

Submit 1 Copy to appropriate District Office  
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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 2A-4	Facility Type: Natural Gas Gathering Pipeline

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

Unit Letter F	Section 24	Township 27N	Range 10W	Feet from the 1602	North/South Line	Feet from the 1484	East/West Line	County San Juan
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Latitude 36.563504 Longitude 107.850989

OIL CONS. DIV DIST. 3

MAY 08 2015

**NATURE OF RELEASE**

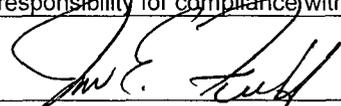
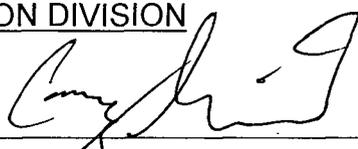
Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release: Unknown	Volume Recovered: None
Source of Release: Suspected internal corrosion	Date and Hour of Occurrence: 4/23/2015 @ 1:05 p.m.	Date and Hour of Discovery: 4/23/2015 @ 2:00 p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom? Thomas Long	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 April 23, 2015, during routine operations a field operation technician identified a natural gas release on Lateral 2A-4 pipeline. The pipeline was isolated, depressurized, locked out and tagged out. Repairs are currently being scheduled and subsurface impacts will be evaluated during repair activities.

Describe Area Affected and Cleanup Action Taken.\* A small area of soil staining was observed on the ground surface. Subsurface impacts are unknown and will be evaluated during repair activities.

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: 5/12/15	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 5/4/2015	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

#NCS 1513237838

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District I  
1625 N. French Dr., Hobbs, NM 88240  
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811 S. First St., Artesia, NM 88210  
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State of New Mexico  
Energy Minerals and Natural  
Resources

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Revised August 8, 2011

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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 3B-33	Facility Type: Natural Gas Gathering Pipeline
Surface Owner: BLM	Mineral Owner: BLM
API No.	

**LOCATION OF RELEASE**

Unit Letter N	Section 2	Township 29N	Range 12W	Feet from the 903	North <u>South</u> Line	Feet from the 1397	East <u>West</u> Line	County San Juan
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OIL CONS. DIV DIST. 3

Latitude 36.750320 Longitude -108.072576

**NATURE OF RELEASE**

MAY 08 2015

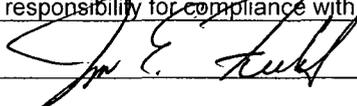
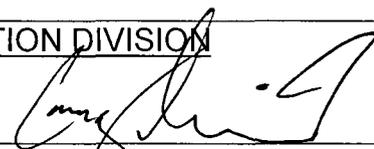
Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release: Unknown	Volume Recovered: None
Source of Release: Suspected internal corrosion	Date and Hour of Occurrence: 4/24/15 @ 9:25 a.m.	Date and Hour of Discovery: 4/24/15 @ 12:30 p.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Cory Smith - NMOCD	
By Whom? Thomas Long	Date and Time 4/25/15 at 11:04 a.m.	
Was a Watercourse Reached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.\* The release is located in a small ephemeral wash. No surface impacts observed.

Describe Cause of Problem and Remedial Action: On April 25, 2105, at 9:25am Gas Control reported a possible pipeline leak on Lateral 3B-33. At 9:41am Enterprise employees were dispatched to leak site. The cause of the release is unknown at this time. The release was verified and the pipeline was isolated, depressurized, locked out and tagged out. Subsurface impacted are unknown and will be evaluated during the repairs activities.

Describe Area Affected and Cleanup Action: No fluids were observed at the ground surface. Subsurface impacts are unknown and will be evaluated at the time of repairs. 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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: 5/12/15	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 5/4/2015	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

#NLS 1513237509

①

District I  
1625 N. French Dr., Hobbs, NM 88240  
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811 S. First St., Artesia, NM 88210  
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District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural  
Resources

OIL CONSERVATION DIVISION

APR 27 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: Lateral C-7 Pipeline	Facility Type: Natural Gas Gathering Line

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

Unit Letter C	Section 1	Township 27N	Range 9W	Feet from the 417	North/South Line North	Feet from the 2370	East/West Line East	County San Juan
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Latitude 36.610148

Longitude 107.740565

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release: 204.18 MCF Gas; 25-50 BBLS fluids	Volume Recovered: None
Source of Release: Cracked weld on the pipeline	Date and Hour of Occurrence: 3/3/2015 @ 12:10 p.m.	Date and Hour of Discovery: 3/3/2015 @ 12:10 p.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? NMOCD - Cory Smith; BLM - Shari Ketcham; San Juan County Sheriff's Department; LEPC	
By Whom? Thomas Long	Date and Hour: 3/3/2015 @ 2:15 p.m.	
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. Upon completion of remediation activities, this section of the Lateral C-7 was removed from service.

Describe Area Affected and Cleanup Action Taken.\* The contaminant mass was removed by mechanical excavation and hydro-excavation. The main excavation measured approximately 132 feet long by 40 feet wide by 35 feet deep. Additional areas in the bar ditched, wash and rill were manually excavated. Approximately 1, 870 cubic yards of hydrocarbon impacted soil and approximately 315 barrels of fluids/sludge was transported to a New Mexico Oil Conservation approved land farm facility. A third party corrective action report is included with this "Final" C-141.

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

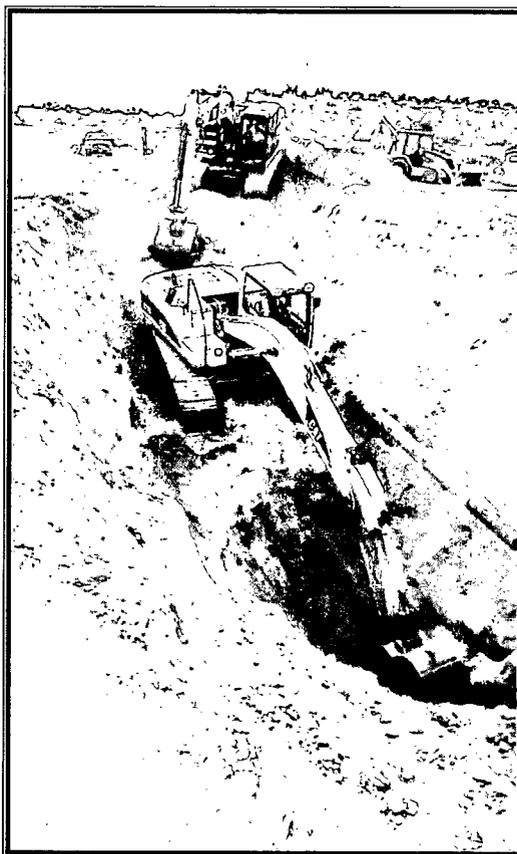
Signature: <i>Jon E. Fields</i>	OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: 5/2/15	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	
Date: 4-24-2015 Phone: (713)381-6684	Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

# NCS 1509730925

219

**Enterprise Products  
Lateral C-7 Pipeline Release  
Latitude North 36.61010°, Longitude West -107.74052°  
Unit Letter A Section 1 T27N R9W  
San Juan County, New Mexico  
April 9, 2015**



**OIL CONS. DIV DIST. 3  
APR 27 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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- Figure 1: Vicinity Map
- Figure 2: Site Map
- Figure 3: Soil Contaminant Concentration Map A
- Figure 4: Soil Contaminant Concentration Map B
- Figure 5: Soil Contaminant Concentration Map C

**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 March 16, 17 and 18, 2015, Souder, Miller & Associates (SMA) oversaw the excavation of a hydrocarbon release associated with the Lateral C-7 pipeline initially reported to SMA on March 3, 2015. The table below summarizes information about the recent remediation activities.

TABLE 1: RELEASE INFORMATION					
Name	Lateral C-7 Pipeline Release				
Location	Latitude/Longitude		Section, Township, Range		
	36.61010°	-107.74052°	Unit A	Section 1	T 27N, R 9W
Date Reported to SMA	March 3, 2015				
Reported to	Tom Long				
Land Owner	Bureau of Land Management (BLM)				
Reported To	BLM, NM Oil Conservation Division (NMOCD)				
Diameter of Pipeline	10 inches				
Source of Release	Faulty Welds				
Release Contents	Natural Gas Liquids/Condensate				
Release Volume	Unknown				
Nearest Waterway	Unnamed Tributary Wash to Blanco Wash				
Depth to Groundwater	Assumed to be less than 50 feet				
Nearest Domestic Water Source	Greater than 1,000 feet				
NMOCD Ranking	40				
SMA Response Dates	3/16,17,18/2015				
Subcontractors	Halo Services Inc.				
Disposal Facility	Envirotech Landfarm				
Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	1870 Yd <sup>3</sup> Soil / 315 bbls liquids				

## 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 Lateral C-7 pipeline. The C-7 pipeline release was a result of faulty weld of the 10-inch, steel pipeline. The release was initially reported to SMA on March 3, 2015. The release site is located in Unit Letter A, Section 1, Township 27 North, Range 9 West; 36.61010°, -107.74052°, San Juan County, New Mexico. Figure 1, Vicinity Map, illustrates the location of the release.

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### 3.0 Site Ranking and Land Jurisdiction

The release site is located in an unnamed tributary wash to Blanco Wash on land managed by the Bureau of Land Management. The site is at an elevation of approximately 5,916 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 2 depicts the site location.

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 of the site. However, 10 wells were located within a 1 mile radius of the site. The physical location of this release is within the jurisdiction of the Bureau of Land Management.

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 March 16, 17, 18, 2015, SMA mobilized to the release site to oversee excavation activities during the repair of the pipeline. SMA oversaw and directed the excavation of hydrocarbon impacted soils by Halo Services Inc. SMA guided the excavation activities by collecting soil samples for field screening with a calibrated photo-ionization detector (PID). Liquids Discharged from the pipeline traveled across the surface to the north and east in the bar ditches and washes near the release. Figures 3, 4 and 5 illustrate the soil sample locations.

Soil samples were initially field screened with a calibrated PID and submitted for conformation laboratory analysis per United States Environmental Protection Agency Method 8021 BTEX, and 8015 Diesel Range Organics (DRO) and Gasoline Range Organics (GRO) and EPA Method 300.0 for Chlorides to Hall Environmental Analytical Laboratory, Albuquerque, New Mexico. Figure 4 illustrates the extent of the excavation and composite soil sample locations and laboratory results. Laboratory results are included in Appendix C.

The final excavation dimensions were approximately 132 feet long by 40 feet wide and up to 35 feet deep, covering an area of approximately 5280 square feet. Surface impacts in the bar ditches, wash and the rill were manually excavated. In total, approximately 1,870 cubic yards of material were excavated and hauled to Envirotech Land Farm near Bloomfield, New Mexico for proper disposal and replaced with clean backfill material. Soil disposal documentation is included in Appendix B. Site photography is included in Appendix A.

---

## 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 benzene, 50 ppm total BTEX, and 100 ppm TPH.

Laboratory analytical results for all samples collected during the March, 2015 excavation indicate concentrations below NMOCD Guidelines. One sample taken from the area across the road where liquids pooled, prior to entering the small wash and the east bar ditch, was above NMOCD standards with combined TPH of 143 mg/kg. The location of this sample was further excavated on March 24, 2015 to 1 foot bgs. An additional sample was collected and submitted for laboratory analysis on March 24, 2014. The results for this subsequent sample, SC-1@1' bgs, were below NMOCD/BLM Guidelines for benzene, BTEX, TPH and chlorides.

Soil contaminant concentrations are illustrated in Figures 3, 4 and 5. A summary of laboratory analysis is included in Table 4. Laboratory reports are included in Appendix C.

SMA recommends no further activities at the Lateral C-7 site.

## 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.

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

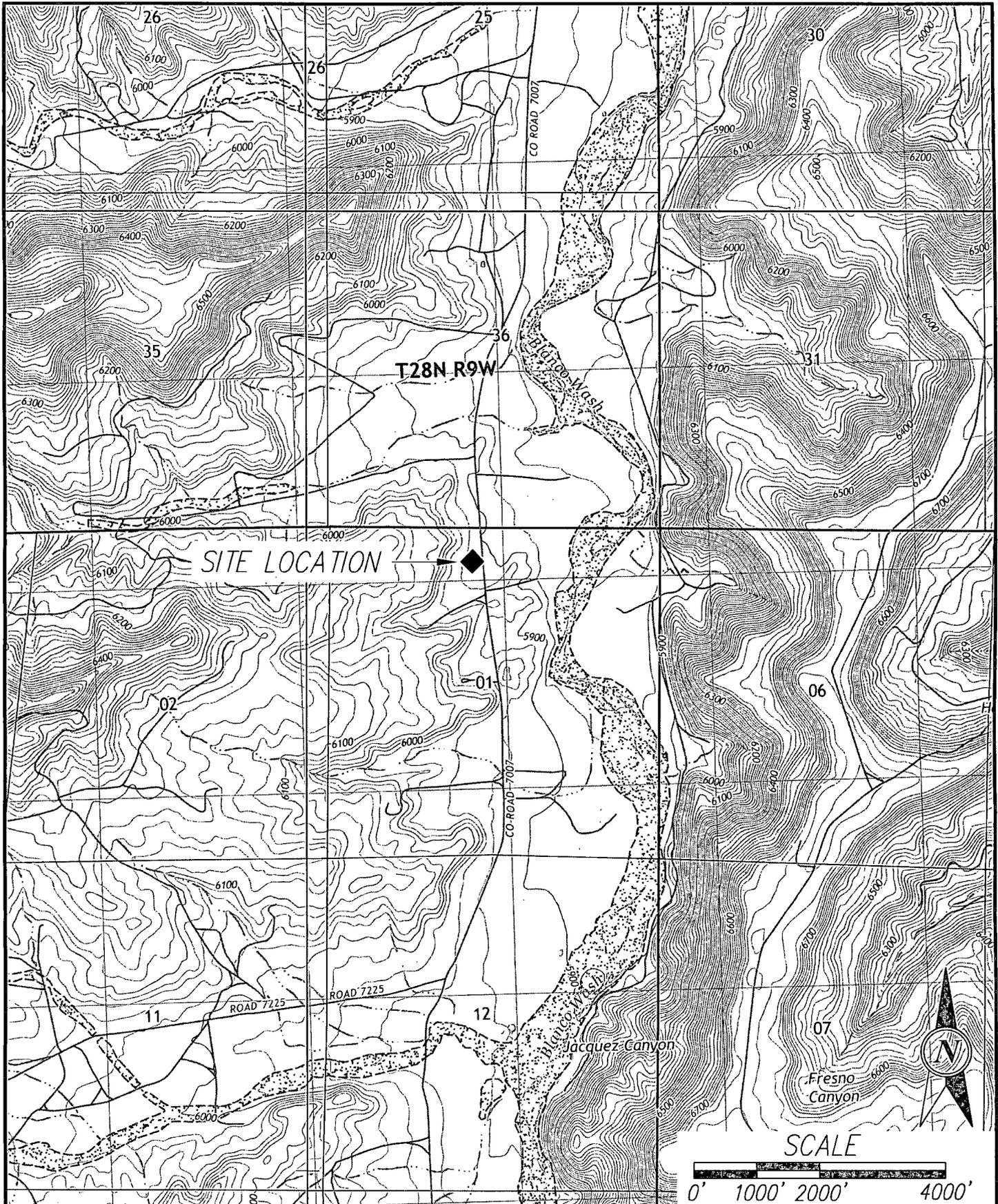


Jesse Sprague  
Staff Scientist



Reid S. Allan, PG  
Principal Scientist

## Figures

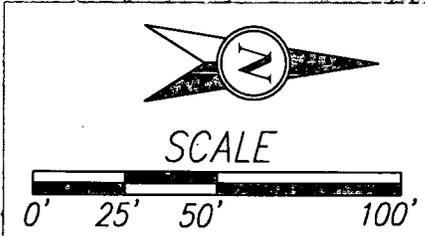
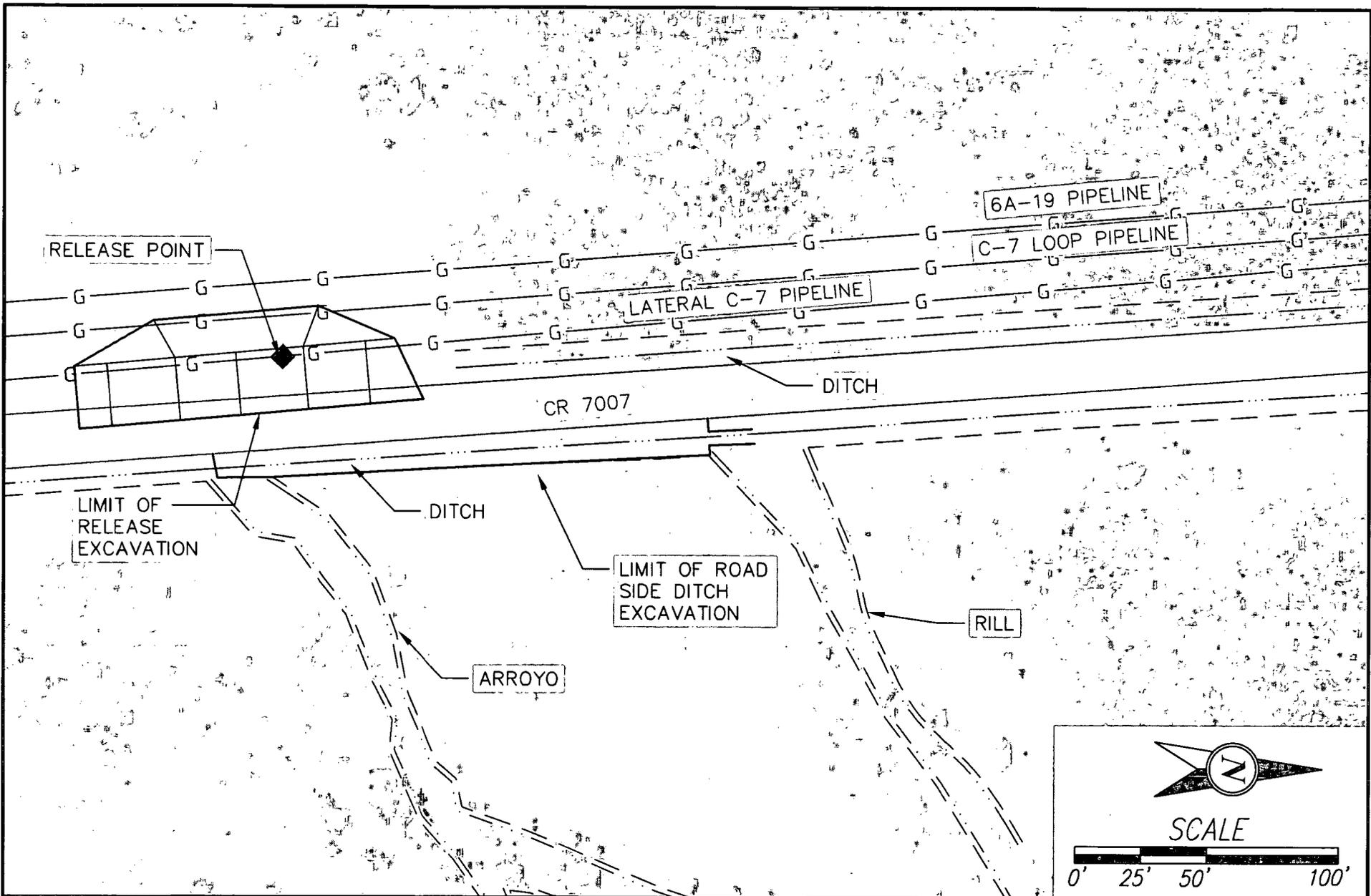


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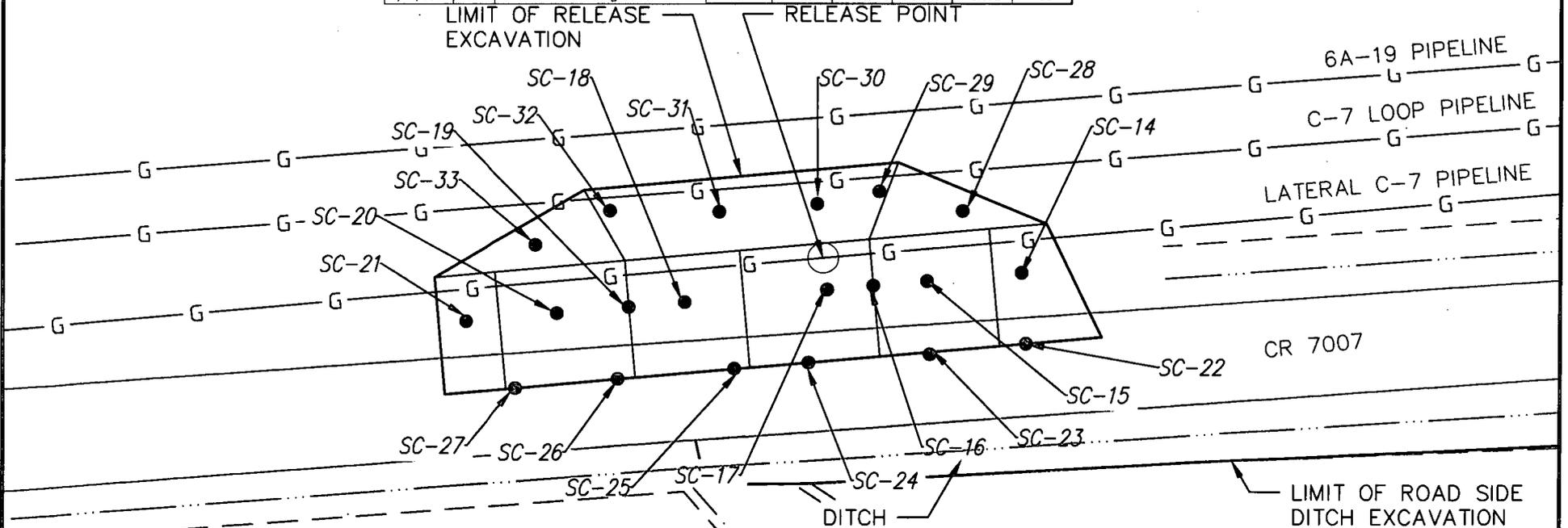
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Designed SM	Drawn GJF	Checked RSA	
Date: APRIL 2015			
Scale: Horiz: 1"=2000'			
Vert: N/A			
Project No: 5123699			
Sheet: 1			



 <b>Engineering Environmental Surveying</b>	<b>SOUDER, MILLER &amp; ASSOCIATES</b> 401 W. BROADWAY FARMINGTON, NM 87401-5097 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 Concho, Grand Junction, CO - Safford, AZ - Moab, UT	<b>ENTERPRISE</b>  FARMINGTON, NEW MEXICO	Designed SM Drawn DJB Checked RSA
	<b>SITE LOCATION MAP</b> <b>LATERAL C-7</b> <b>SECTION 1, T27N, R9W</b>		Date: APRIL 2015 Scale: Horiz: 1"=50' Vert: N/A
			Project No: 5123699
			Sheet: 2
	SAN JUAN COUNTY, NEW MEXICO		

SC-40

Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX	Method 300.0 Chlorides
NMOCD Guidelines			NMOCD Site Ranking: 0		100 ppm	10 ppm	50 ppm	
3/18/2015	13:43	SC-14 N Wall	0-15'	<2.8	<9.8	<0.028	<0.056	<30
3/18/2015	13:46	SC-15 N Bench	15'	<2.9	<9.8	<0.029	<0.057	<30
3/18/2015	13:49	SC-16 N Wall Deep	15'-35'	<3.0	<10	<0.030	<0.061	<30
3/18/2015	13:52	SC-17 N Deep Base	35'	<3.3	<9.9	<0.033	<0.067	<30
3/18/2015	13:55	SC-18 S Deep Base	35'	<3.3	<9.8	<0.033	<0.066	<30
3/18/2015	13:58	SC-19 S Deep Wall	15-35'	<2.8	<10	<0.028	<0.056	<30
3/18/2015	14:01	SC-20 S Bench	15'	<3.2	<10	<0.032	<0.064	<30
3/18/2015	14:04	SC-21 S Wall	0'-15'	<3.1	<9.9	<0.031	<0.062	<30
3/18/2015	14:07	SC-22 NE Wall	0'-15'	<3.2	<9.9	<0.032	<0.064	<30
3/18/2015	14:10	SC-23 NE Wall 2	0'-15'	<3.36	<10	<0.036	<0.071	<30
3/18/2015	14:13	SC-24 E Wall Deep	0'-35'	<2.9	<9.9	<0.029	<0.058	<30
3/18/2015	14:16	SC-25 E Wall Deep South	0'-35'	<3.2	<10	<0.032	<0.065	<30
3/18/2015	14:19	SC-26 E Wall S	0'-15'	<3.5	<9.9	<0.035	<0.070	<30
3/18/2015	14:22	SC-27 E Wall S 2	0'-15'	<3.0	<10	<0.030	<0.06	<30
3/18/2015	14:25	SC-28 NW Wall	0'-15'	<3.4	<10	<0.034	<0.068	<30
3/18/2015	14:28	SC-29 NW Wall 2	0'-35'	<3.6	<9.8	<0.036	<0.072	<30
3/18/2015	14:31	SC-30 NW Wall 3	0'-35'	<4.5	<9.9	<0.045	<0.089	<30
3/18/2015	14:34	SC-31 SW Wall	0'-35'	<3.2	<9.9	<0.032	<0.065	<30
3/18/2015	14:37	SC-32 SW Wall 2	0'-35'	<4.6	<10	<0.046	<0.093	<30
3/18/2015	14:40	SC-33 SW Wall 3	0'-15'	<3.4	<10	<0.034	<0.067	<30
3/18/2015	15:01	SC-40 Background	.5'	<4.6	<9.9	<0.046	<0.091	<30



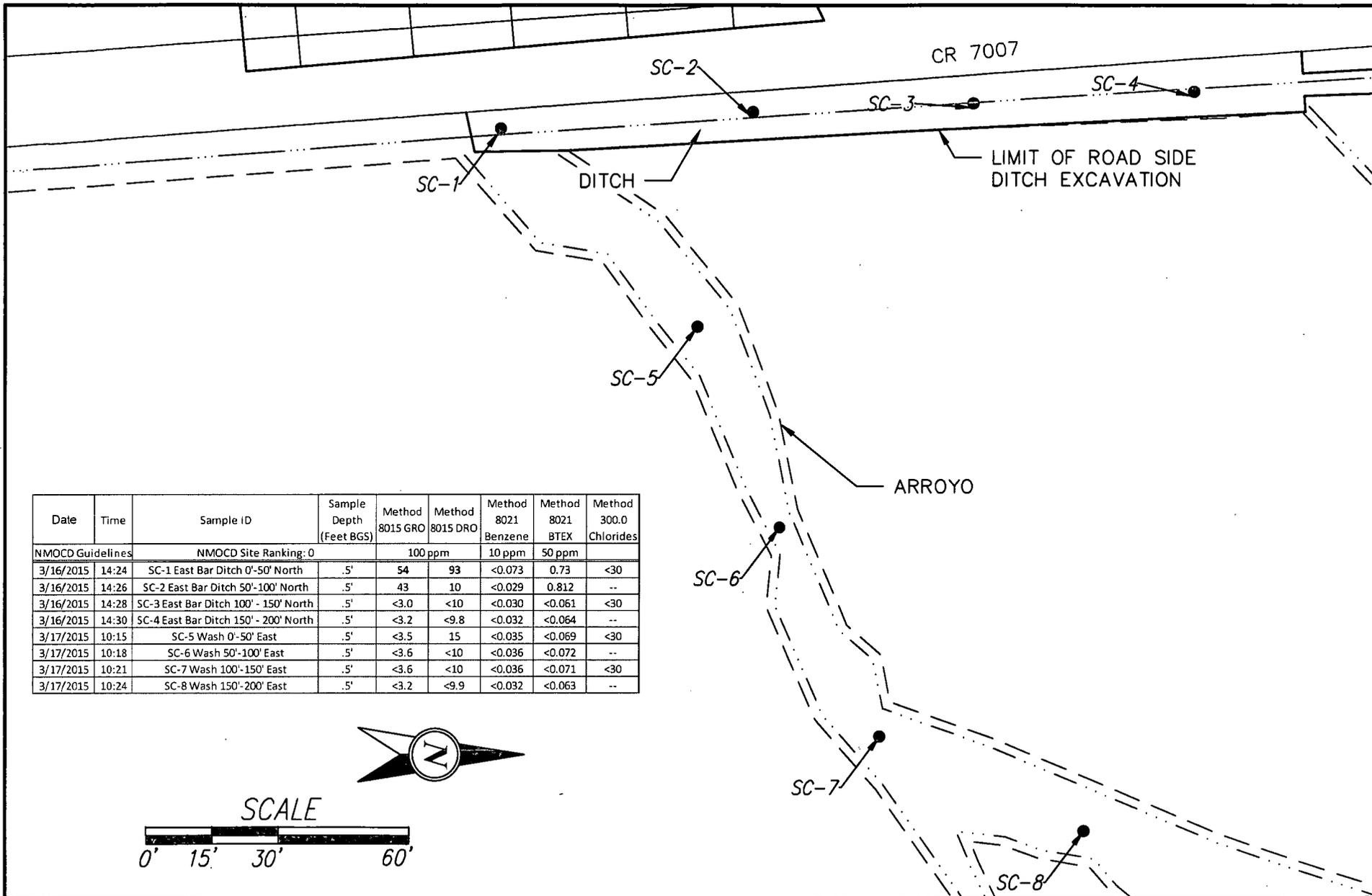
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**SOIL CONTAMINANT CONCENTRATION**  
**LATERAL C-7**  
**SECTION 1, T27N, R9W**

Designed SM	Drawn DJB	Checked RSA
Date: APRIL 2015		
Scale: Horiz: 1"=30'		
Vert: N/A		
Project No: 5123699		
Sheet: 3		



Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX	Method 300.0 Chlorides
NMOCD Guidelines			NMOCD Site Ranking: 0			100 ppm	10 ppm	50 ppm
3/16/2015	14:24	SC-1 East Bar Ditch 0'-50' North	.5'	54	93	<0.073	0.73	<30
3/16/2015	14:26	SC-2 East Bar Ditch 50'-100' North	.5'	43	10	<0.029	0.812	--
3/16/2015	14:28	SC-3 East Bar Ditch 100'-150' North	.5'	<3.0	<10	<0.030	<0.061	<30
3/16/2015	14:30	SC-4 East Bar Ditch 150'-200' North	.5'	<3.2	<9.8	<0.032	<0.064	--
3/17/2015	10:15	SC-5 Wash 0'-50' East	.5'	<3.5	15	<0.035	<0.069	<30
3/17/2015	10:18	SC-6 Wash 50'-100' East	.5'	<3.6	<10	<0.036	<0.072	--
3/17/2015	10:21	SC-7 Wash 100'-150' East	.5'	<3.6	<10	<0.036	<0.071	<30
3/17/2015	10:24	SC-8 Wash 150'-200' East	.5'	<3.2	<9.9	<0.032	<0.063	--



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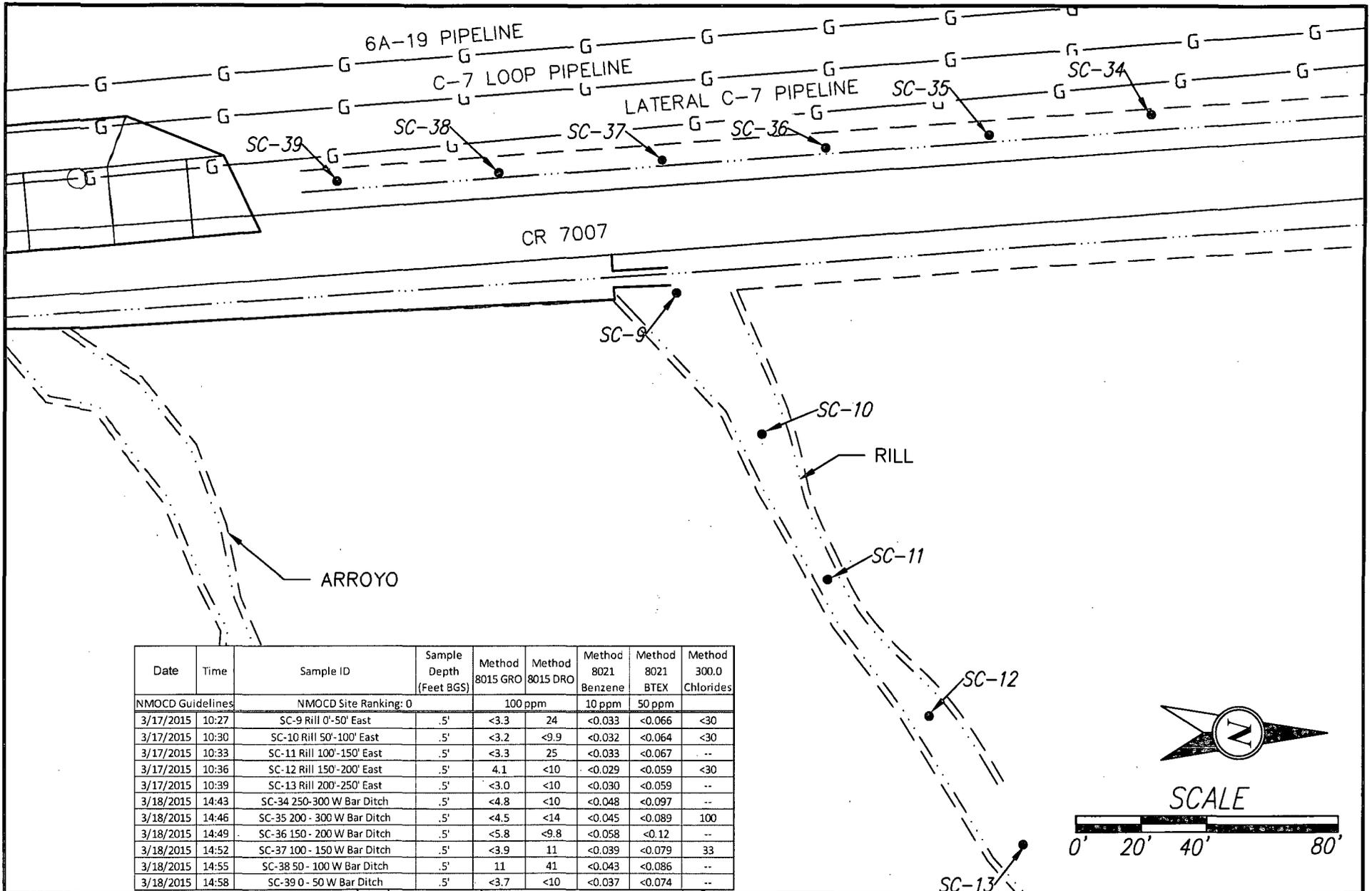
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**SOIL CONTAMINANT CONCENTRATION**  
**LATERAL C-7**  
**SECTION 1, T27N, R9W**

SAN JUAN COUNTY, NEW MEXICO

Designed SM	Drawn DJB	Checked RSA
Date: APRIL 2015		
Scale: Horiz: 1"=30'		
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Project No: 5123699		
Sheet: 4		



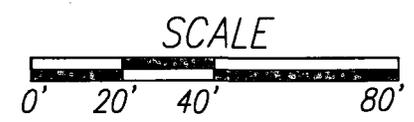
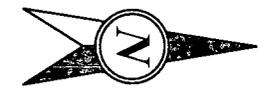
Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX	Method 300.0 Chlorides
NMOCD Guidelines				NMOCD Site Ranking: 0		100 ppm	10 ppm	50 ppm
3/17/2015	10:27	SC-9 Rill 0'-50' East	.5'	<3.3	24	<0.033	<0.066	<30
3/17/2015	10:30	SC-10 Rill 50'-100' East	.5'	<3.2	<9.9	<0.032	<0.064	<30
3/17/2015	10:33	SC-11 Rill 100'-150' East	.5'	<3.3	25	<0.033	<0.067	--
3/17/2015	10:36	SC-12 Rill 150'-200' East	.5'	4.1	<10	<0.029	<0.059	<30
3/17/2015	10:39	SC-13 Rill 200'-250' East	.5'	<3.0	<10	<0.030	<0.059	--
3/18/2015	14:43	SC-34 250'-300 W Bar Ditch	.5'	<4.8	<10	<0.048	<0.097	--
3/18/2015	14:46	SC-35 200 - 300 W Bar Ditch	.5'	<4.5	<14	<0.045	<0.089	100
3/18/2015	14:49	SC-36 150 - 200 W Bar Ditch	.5'	<5.8	<9.8	<0.058	<0.12	--
3/18/2015	14:52	SC-37 100 - 150 W Bar Ditch	.5'	<3.9	11	<0.039	<0.079	33
3/18/2015	14:55	SC-38 50 - 100 W Bar Ditch	.5'	11	41	<0.043	<0.086	--
3/18/2015	14:58	SC-39 0 - 50 W Bar Ditch	.5'	<3.7	<10	<0.037	<0.074	--



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**SOIL CONTAMINANT CONCENTRATION  
 LATERAL C-7  
 SECTION 1, T27N, R9W**



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

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## Tables

Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20	20	Field verification that release is located within an unnamed wash.	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	20	Field verification that release is located within an unnamed wash.	Release is located within an unnamed tributary wash of Blanco Wash.
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	0	NM State Engineer Water Well Database	No recorded water wells located with 1000'; Ten wells located within a 1 mile radius.
<b>Total Site Ranking</b>	<b>40</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

Lateral C-7  
 Pipeline Release  
 4/9/2015

Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX	Method 300.0 Chlorides
NMOCD Guidelines		NMOCD Site Ranking: 40		100 ppm		10 ppm	50 ppm	
3/16/2015	14:24	SC-1 East Bar Ditch 0'-50' North	.5'	54	93	<0.073	0.73	<30
3/24/2015	9:30	SC-1 East Bar Ditch 0'-50' North	1'	<4.9	<9.8	<0.049	<0.097	39
3/16/2015	14:26	SC-2 East Bar Ditch 50'-100' North	.5'	43	10	<0.029	0.812	--
3/16/2015	14:28	SC-3 East Bar Ditch 100' - 150' North	.5'	<3.0	<10	<0.030	<0.061	<30
3/16/2015	14:30	SC-4 East Bar Ditch 150' - 200' North	.5'	<3.2	<9.8	<0.032	<0.064	--
3/17/2015	10:15	SC-5 Wash 0'-50' East	.5'	<3.5	15	<0.035	<0.069	<30
3/17/2015	10:18	SC-6 Wash 50'-100' East	.5'	<3.6	<10	<0.036	<0.072	--
3/17/2015	10:21	SC-7 Wash 100'-150' East	.5'	<3.6	<10	<0.036	<0.071	<30
3/17/2015	10:24	SC-8 Wash 150'-200' East	.5'	<3.2	<9.9	<0.032	<0.063	--
3/17/2015	10:27	SC-9 Rill 0'-50' East	.5'	<3.3	24	<0.033	<0.066	<30
3/17/2015	10:30	SC-10 Rill 50'-100' East	.5'	<3.2	<9.9	<0.032	<0.064	<30
3/17/2015	10:33	SC-11 Rill 100'-150' East	.5'	<3.3	25	<0.033	<0.067	--
3/17/2015	10:36	SC-12 Rill 150'-200' East	.5'	4.1	<10	<0.029	<0.059	<30
3/17/2015	10:39	SC-13 Rill 200'-250' East	.5'	<3.0	<10	<0.030	<0.059	--
3/18/2015	13:43	SC-14 N Wall	0-15'	<2.8	<9.8	<0.028	<0.056	<30
3/18/2015	13:46	SC-15 N Bench	15'	<2.9	<9.8	<0.029	<0.057	<30
3/18/2015	13:49	SC-16 N Wall Deep	15'-35'	<3.0	<10	<0.030	<0.061	<30
3/18/2015	13:52	SC-17 N Deep Base	35'	<3.3	<9.9	<0.033	<0.067	<30
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3/18/2015	13:58	SC-19 S Deep Wall	15-35'	<2.8	<10	<0.028	<0.056	<30
3/18/2015	14:01	SC-20 S Bench	15'	<3.2	<10	<0.032	<0.064	<30
3/18/2015	14:04	SC-21 S Wall	0'-15'	<3.1	<9.9	<0.031	<0.062	<30
3/18/2015	14:07	SC-22 NE Wall	0'-15'	<3.2	<9.9	<0.032	<0.064	<30
3/18/2015	14:10	SC-23 NE Wall 2	0'-15'	<3.36	<10	<0.036	<0.071	<30
3/18/2015	14:13	SC-24 E Wall Deep	0'-35'	<2.9	<9.9	<0.029	<0.058	<30
3/18/2015	14:16	SC-25 E Wall Deep South	0'-35'	<3.2	<10	<0.032	<0.065	<30
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3/18/2015	14:31	SC-30 NW Wall 3	0'-35'	<4.5	<9.9	<0.045	<0.089	<30
3/18/2015	14:34	SC-31 SW Wall	0'-35'	<3.2	<9.9	<0.032	<0.065	<30
3/18/2015	14:37	SC-32 SW Wall 2	0'-35'	<4.6	<10	<0.046	<0.093	<30
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Enterprise Products  
 Table 3: Summary of Laboratory Analysis  
 Results in mg/Kg

Lateral C-7  
 Pipeline Release  
 4/9/2015

Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX	Method 300.0 Chlorides
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3/18/2015	14:49	SC-36 150 - 200 W Bar Ditch	.5'	<5.8	<9.8	<0.058	<0.12	--
3/18/2015	14:52	SC-37 100 - 150 W Bar Ditch	.5'	<3.9	11	<0.039	<0.079	33
3/18/2015	14:55	SC-38 50 - 100 W Bar Ditch	.5'	11	41	<0.043	<0.086	--
3/18/2015	14:58	SC-39 0 - 50 W Bar Ditch	.5'	<3.7	<10	<0.037	<0.074	--
3/18/2015	15:01	SC-40 Background	.5'	<4.6	<9.9	<0.046	<0.091	<30

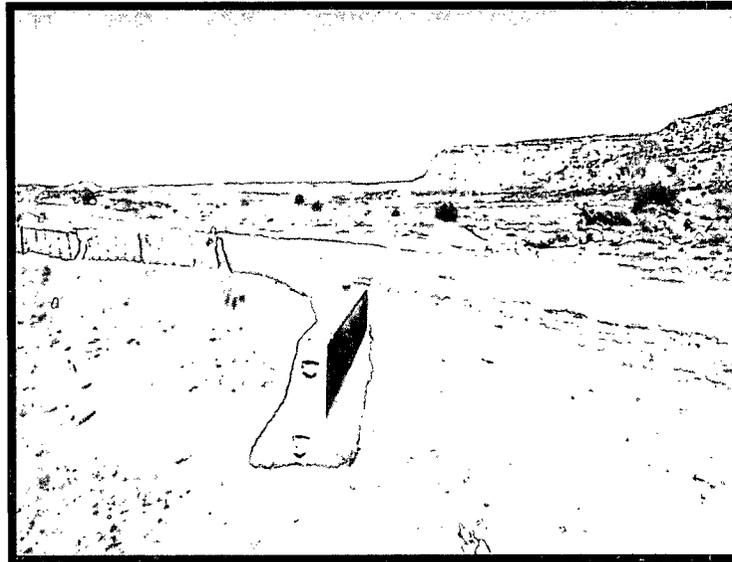


**Appendix A**  
**Site Photography**

**Site Photographs**  
**Enterprise Products Lateral C-7 Pipeline**

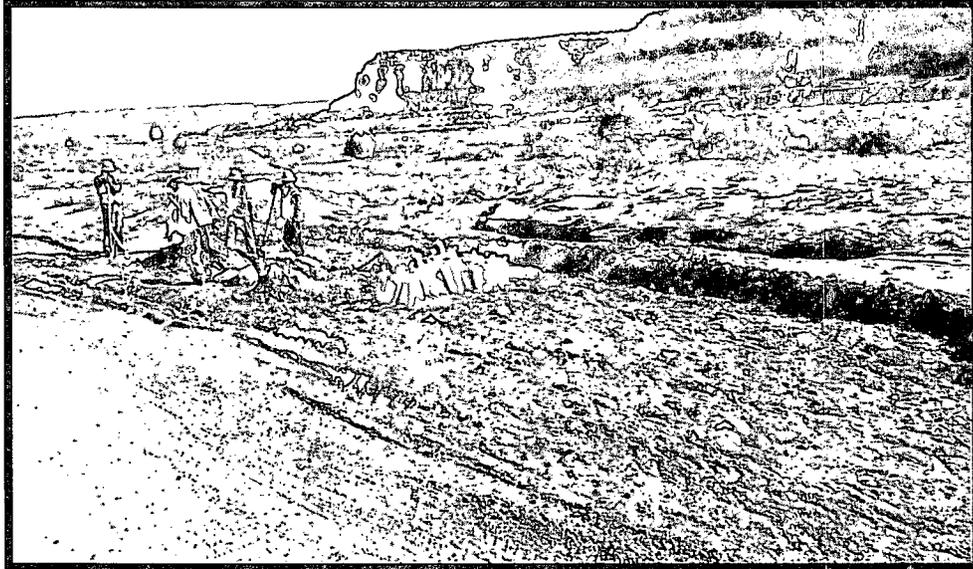


**Photo 1:** The liquids released from the Lateral C-7 eroded a large hole above the release location. Pictured is the release after residual liquids were removed.

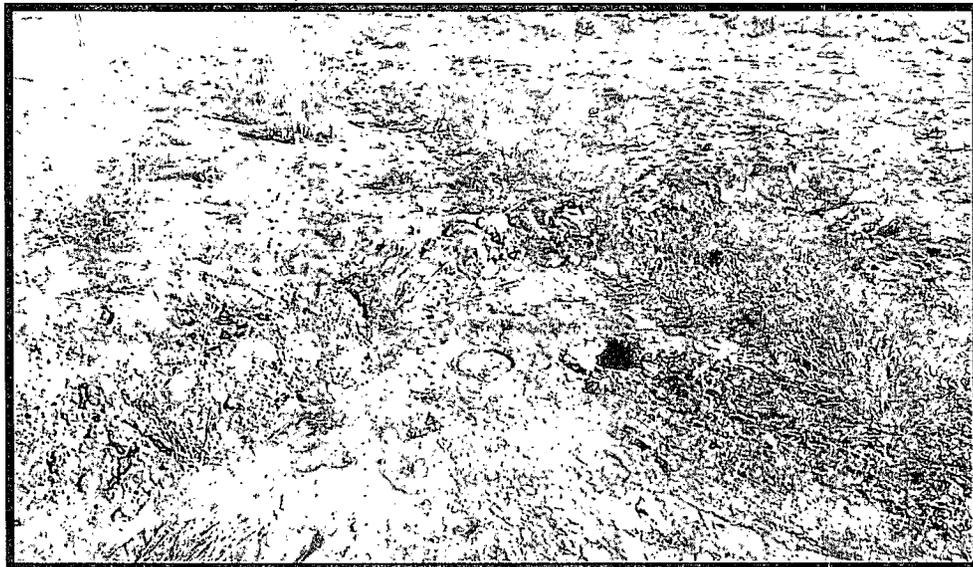


**Photo 2:** Surface impact from pipeline liquids as they traveled across ground surface in the vicinity of the release.

**Site Photographs**  
**Enterprise Products Lateral C-7 Pipeline**



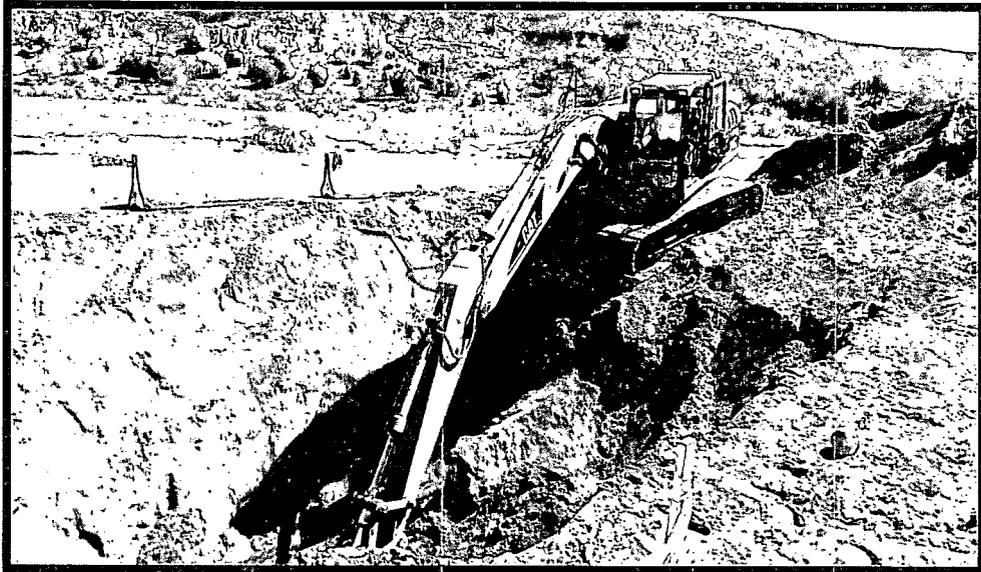
**Photo 3:** Manual excavation of surface impacts in the east bar ditch and wash by Halo Services Inc. contractors.



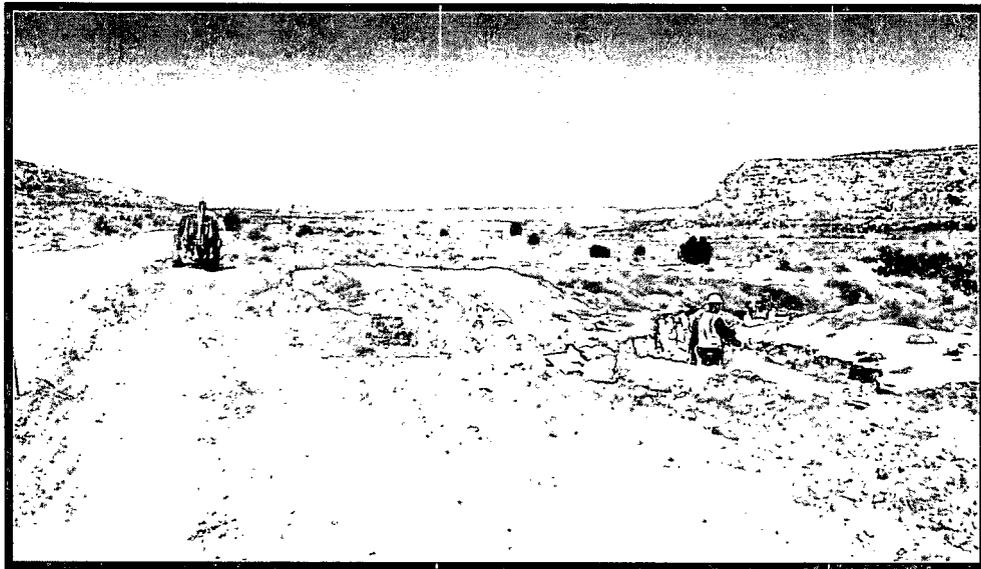
**Photo 4:** Visible surface impact, the location pictured is where the east bar ditch impact enters the rill and runs east. One point in a sample composite is visible.

## Site Photographs

### Enterprise Products Lateral C-7 Pipeline



**Photo 5:** Initial excavation exposes impacted soils near the release. The depth of the pipeline necessitated a large excavation.

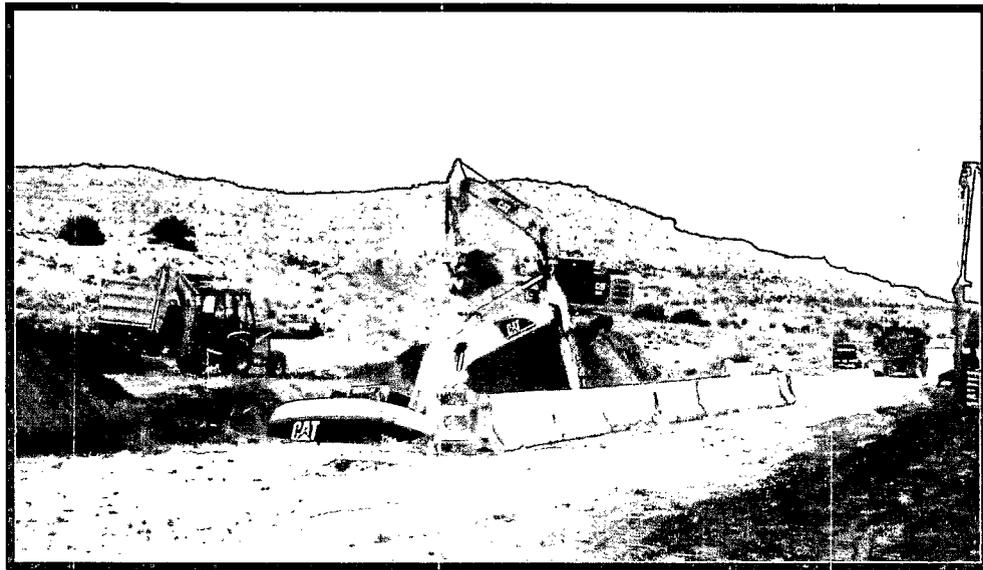


**Photo 6:** A rubber tire backhoe was used to remove the impact within the bar ditch. Also visible is the removal of surface impacts within the wash. View is to north.

**Site Photographs**  
**Enterprise Products Lateral C-7 Pipeline**

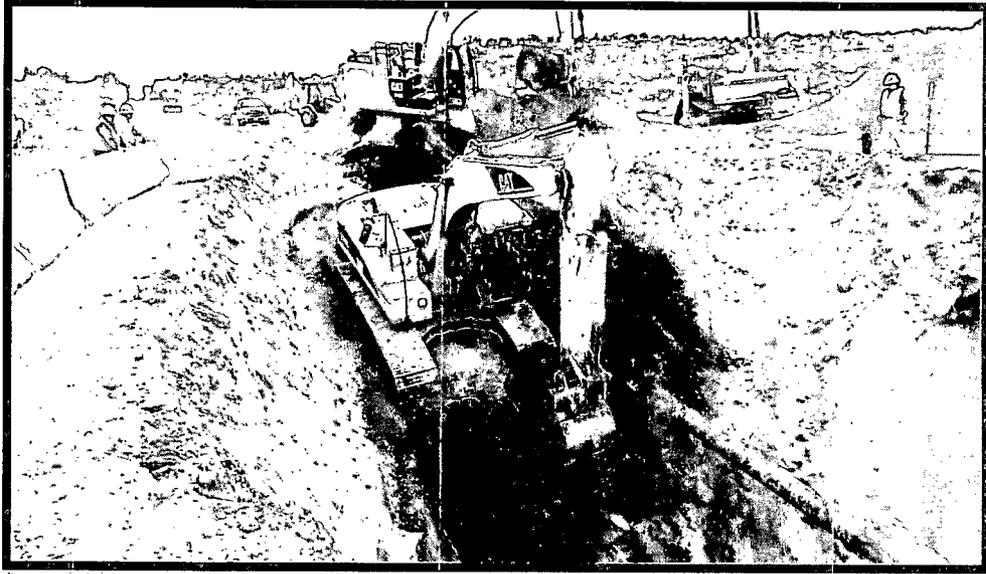


**Photo 7:** Contamination extended into the road base but was able to be removed by creating a shoofly to divert traffic to the east. Concrete barriers and barrels were used for safety.

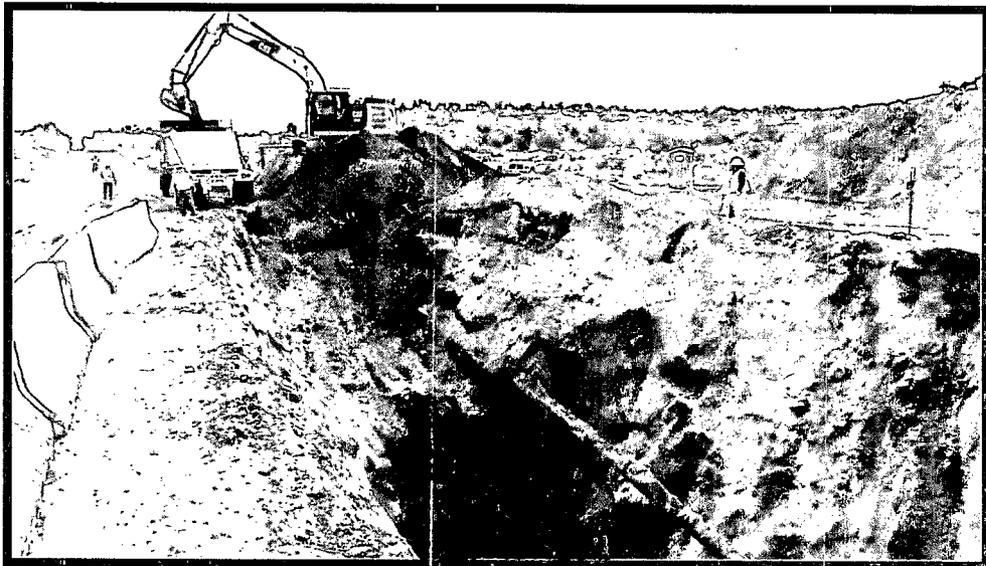


**Photo 8:** A second track mounted hoe was used to keep up with soil excavation and removal.

**Site Photographs**  
**Enterprise Products Lateral C-7 Pipeline**



**Photo 9:** Heavily stained soils were encountered in the east end of the excavation however contamination was not detected in laboratory samples.



**Photo 10:** Final excavation extents measured over 130 feet long with depths to 35 feet below grade.

**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 **97057-0693**  
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> Lateral C-7 Pipeline Release <p style="text-align: right;"><i>March 2015</i></p>
<b>3. Location of Material (Street Address, City, State or ULSTR):</b> Unit C Sec 1 T 27 N R 9 W, San Juan County, NM;36.610106, -107.740523
<b>4. Source and Description of Waste:</b> Source: Natural Gas Gathering Line Description: Hydrocarbon impacted soil/sludge/water released from a gathering line Estimated Volume <u>80</u> yd <sup>3</sup> / bbls Known Volume (to be entered by the operator at the end of the haul) <u>1798/315</u> yd <sup>3</sup> / bbls
<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 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 *Thomas Long* 3-3-15, representative for Enterprise Products Operating authorize 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 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: To Be Determined**, Envirotech, Halo, BET, Contant, HBL, Flying M, Del Prado, 3E Energy, Lokato, Esparza, B+B Excavation, Rockies

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: 3/3/15  
SIGNATURE: *Kendra Runnung* 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 97057-0693  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-138  
Revised 08/01/11

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

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: Lateral C-7 Pipeline Release <p style="text-align: right;">April 2015</p>
3. Location of Material (Street Address, City, State or ULSTR): Unit C Sec 1 T 27 N R 9 W, San Juan County, NM; 36.610106, -107.740523
4. Source and Description of Waste: Source: Natural Gas Gathering Line Description: Hydrocarbon impacted soil/sludge/water released from a gathering line Estimated Volume <u>80</u> yd <sup>3</sup> (bbl) Known Volume (to be entered by the operator at the end of the haul) <u>72</u> 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> 3-3-15, representative for Enterprise Products Operating authorize to complete Generator Signature the required testing/sign the Generator Waste Testing Certification. I, <i>Kendra Runyng</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: To Be Determined <u>Envirotech, Riehl Trucking</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 Runyng  
SIGNATURE: *Kendra Runyng*  
Surface Waste Management Facility Authorized Agent

TITLE: waste Coordinator  
TELEPHONE NO.: 505-632-0615

DATE: 4/1/15

**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)

March 18, 2015

Steve Moskal

Souder, Miller and Associates

401 W. Broadway

Farmington, NM 87401

TEL: (505) 325-5667

FAX

RE: Lateral C-7

OrderNo.: 1503672

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 4 sample(s) on 3/17/2015 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 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  
 Project: Lateral C-7      Collection Date: 3/16/2015 2:24:00 PM  
 Lab ID: 1503672-001      Matrix: MEOH (SOIL)      Received Date: 3/17/2015 7:10:00 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)	93	10		mg/Kg	1	3/17/2015 1:03:40 PM	18172
Surr: DNOP	117	63.5-128		%REC	1	3/17/2015 1:03:40 PM	18172
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	54	15		mg/Kg	5	3/17/2015 9:07:38 AM	18158
Surr: BFB	167	80-120	S	%REC	5	3/17/2015 9:07:38 AM	18158
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.073		mg/Kg	5	3/17/2015 9:07:38 AM	18158
Toluene	ND	0.15		mg/Kg	5	3/17/2015 9:07:38 AM	18158
Ethylbenzene	ND	0.15		mg/Kg	5	3/17/2015 9:07:38 AM	18158
Xylenes, Total	0.73	0.29		mg/Kg	5	3/17/2015 9:07:38 AM	18158
Surr: 4-Bromofluorobenzene	116	80-120		%REC	5	3/17/2015 9:07:38 AM	18158
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/17/2015 9:24:05 AM	18176

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

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

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-2

**Project:** Lateral C-7

**Collection Date:** 3/16/2015 2:26:00 PM

**Lab ID:** 1503672-002

**Matrix:** MEOH (SOIL)

**Received Date:** 3/17/2015 7:10:00 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)	10	9.9		mg/Kg	1	3/17/2015 1:25:14 PM	18172
Surr: DNOP	112	63.5-128		%REC	1	3/17/2015 1:25:14 PM	18172
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	43	2.9		mg/Kg	1	3/17/2015 9:36:22 AM	18158
Surr: BFB	329	80-120	S	%REC	1	3/17/2015 9:36:22 AM	18158
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.029		mg/Kg	1	3/17/2015 9:36:22 AM	18158
Toluene	0.072	0.029		mg/Kg	1	3/17/2015 9:36:22 AM	18158
Ethylbenzene	0.11	0.029		mg/Kg	1	3/17/2015 9:36:22 AM	18158
Xylenes, Total	0.63	0.058		mg/Kg	1	3/17/2015 9:36:22 AM	18158
Surr: 4-Bromofluorobenzene	132	80-120	S	%REC	1	3/17/2015 9:36:22 AM	18158

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503672

Date Reported: 3/18/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-3

Project: Lateral C-7

Collection Date: 3/16/2015 2:28:00 PM

Lab ID: 1503672-003

Matrix: MEOH (SOIL)

Received Date: 3/17/2015 7:10:00 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	3/17/2015 1:46:58 PM	18172
Surr: DNOP	106	63.5-128		%REC	1	3/17/2015 1:46:58 PM	18172
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	3/17/2015 10:05:07 AM	18158
Surr: BFB	98.9	80-120		%REC	1	3/17/2015 10:05:07 AM	18158
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.030		mg/Kg	1	3/17/2015 10:05:07 AM	18158
Toluene	ND	0.030		mg/Kg	1	3/17/2015 10:05:07 AM	18158
Ethylbenzene	ND	0.030		mg/Kg	1	3/17/2015 10:05:07 AM	18158
Xylenes, Total	ND	0.061		mg/Kg	1	3/17/2015 10:05:07 AM	18158
Surr: 4-Bromofluorobenzene	112	80-120		%REC	1	3/17/2015 10:05:07 AM	18158
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/17/2015 9:36:29 AM	18176

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-4

Project: Lateral C-7

Collection Date: 3/16/2015 2:30:00 PM

Lab ID: 1503672-004

Matrix: MEOH (SOIL)

Received Date: 3/17/2015 7:10:00 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	3/17/2015 2:08:32 PM	18172
Surr: DNOP	110	63.5-128		%REC	1	3/17/2015 2:08:32 PM	18172
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	3/17/2015 10:33:48 AM	18158
Surr: BFB	104	80-120		%REC	1	3/17/2015 10:33:48 AM	18158
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	3/17/2015 10:33:48 AM	18158
Toluene	ND	0.032		mg/Kg	1	3/17/2015 10:33:48 AM	18158
Ethylbenzene	ND	0.032		mg/Kg	1	3/17/2015 10:33:48 AM	18158
Xylenes, Total	ND	0.064		mg/Kg	1	3/17/2015 10:33:48 AM	18158
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	3/17/2015 10:33:48 AM	18158

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503672

18-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	MB-18176	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	18176	RunNo:	24873					
Prep Date:	3/17/2015	Analysis Date:	3/17/2015	SeqNo:	732771	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-18176	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	18176	RunNo:	24873					
Prep Date:	3/17/2015	Analysis Date:	3/17/2015	SeqNo:	732772	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.2	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503672

18-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	<b>MB-18172</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18172</b>	RunNo:	<b>24861</b>					
Prep Date:	<b>3/17/2015</b>	Analysis Date:	<b>3/17/2015</b>	SeqNo:	<b>732781</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	11		10.00		113	63.5	128			

Sample ID	<b>LCS-18172</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18172</b>	RunNo:	<b>24861</b>					
Prep Date:	<b>3/17/2015</b>	Analysis Date:	<b>3/17/2015</b>	SeqNo:	<b>732873</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	93.8	67.8	130			
Surr: DNOP	4.9		5.000		97.4	63.5	128			

Sample ID	<b>1503672-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>18172</b>	RunNo:	<b>24861</b>					
Prep Date:	<b>3/17/2015</b>	Analysis Date:	<b>3/17/2015</b>	SeqNo:	<b>733111</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	190	10	49.80	92.72	191	29.2	176			S
Surr: DNOP	5.6		4.980		112	63.5	128			

Sample ID	<b>1503672-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>18172</b>	RunNo:	<b>24861</b>					
Prep Date:	<b>3/17/2015</b>	Analysis Date:	<b>3/17/2015</b>	SeqNo:	<b>733126</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	240	10	50.35	92.72	286	29.2	176	22.9	23	S
Surr: DNOP	5.9		5.035		117	63.5	128	0	0	

Sample ID	<b>MB-18142</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18142</b>	RunNo:	<b>24861</b>					
Prep Date:	<b>3/16/2015</b>	Analysis Date:	<b>3/17/2015</b>	SeqNo:	<b>733137</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		108	63.5	128			

Sample ID	<b>LCS-18142</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18142</b>	RunNo:	<b>24861</b>					
Prep Date:	<b>3/16/2015</b>	Analysis Date:	<b>3/17/2015</b>	SeqNo:	<b>733142</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		89.4	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503672

18-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	MB-18158	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	18158	RunNo:	24877					
Prep Date:	3/16/2015	Analysis Date:	3/17/2015	SeqNo:	733166	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		92.4	80	120			

Sample ID	LCS-18158	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	18158	RunNo:	24877					
Prep Date:	3/16/2015	Analysis Date:	3/17/2015	SeqNo:	733167	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	109	64	130			
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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503672

18-Mar-15

**Client:** Souder, Miller and Associates

**Project:** Lateral C-7

Sample ID	<b>MB-18158</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18158</b>	RunNo:	<b>24877</b>					
Prep Date:	<b>3/16/2015</b>	Analysis Date:	<b>3/17/2015</b>	SeqNo:	<b>733197</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-18158</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18158</b>	RunNo:	<b>24877</b>					
Prep Date:	<b>3/16/2015</b>	Analysis Date:	<b>3/17/2015</b>	SeqNo:	<b>733198</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.050	1.000	0	116	76.6	128			
Toluene	1.1	0.050	1.000	0	110	75	124			
Ethylbenzene	1.1	0.050	1.000	0	112	79.5	126			
Xylenes, Total	3.3	0.10	3.000	0	111	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		115	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 Not In Range
- RL Reporting Detection Limit



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

# Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1503672

RcptNo: 1

Received by/date:

*[Signature]* 03/17/15

Logged By: Lindsay Mangin

3/17/2015 7:10:00 AM

*[Signature]*

Completed By: Lindsay Mangin

3/17/2015 7:22:34 AM

*[Signature]*

Reviewed By:

*[Signature]* 03/17/15

### Chain of Custody

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

### Log In

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

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

### Special Handling (if applicable)

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

Person Notified:		Date:	
By Whom:		Via:	<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	3.0	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@soudermiller.com

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

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

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

Turn-Around Time:

Standard  Rush Same Day

Project Name: Lateral C-7

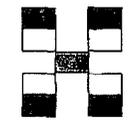
Project #: N20609

Project Manager: Steve Moskal

Sampler: Jesse Sprague

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 (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)	300.0 Chlorides	Air Bubbles (Y or N)
6-15	1424	Soil	SC-1	1402	Meq/L	15031272	X	X	X									X	
	1426	"	SC-2	↓	↓	-002	X	X	X										
	1428	"	SC-3	↓	↓	-003	X	X	X									X	
	1430	"	SC-4	↓	↓	-004	X	X	X										

Date: 6/1/15 Time: 1742 Relinquished by: G-ESP Received by: Christine Walters Date: 3/16/15 Time: 1742

Date: 6/1/15 Time: 1825 Relinquished by: Christine Walters Received by: [Signature] Date: 03/17/15 Time: 0710

Remarks: Invoice ~~SPD~~ Enterprise  
COPY Jesse.Sprague@soudermiller.com

Some 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)

March 19, 2015

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

RE: Lateral C-7

OrderNo.: 1503746

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 9 sample(s) on 3/18/2015 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-5  
 Project: Lateral C-7      Collection Date: 3/17/2015 10:15:00 AM  
 Lab ID: 1503746-001      Matrix: MEOH (SOIL)      Received Date: 3/18/2015 7:10:00 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)	15	10		mg/Kg	1	3/18/2015 1:12:03 PM	18173
Surr: DNOP	106	63.5-128		%REC	1	3/18/2015 1:12:03 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	3/18/2015 11:23:40 AM	18167
Surr: BFB	91.4	80-120		%REC	1	3/18/2015 11:23:40 AM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.035		mg/Kg	1	3/18/2015 11:23:40 AM	18167
Toluene	ND	0.035		mg/Kg	1	3/18/2015 11:23:40 AM	18167
Ethylbenzene	ND	0.035		mg/Kg	1	3/18/2015 11:23:40 AM	18167
Xylenes, Total	ND	0.069		mg/Kg	1	3/18/2015 11:23:40 AM	18167
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	3/18/2015 11:23:40 AM	18167
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/18/2015 10:29:03 AM	18203

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

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

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates  
**Project:** Lateral C-7  
**Lab ID:** 1503746-002

**Client Sample ID:** SC-6  
**Collection Date:** 3/17/2015 10:18:00 AM  
**Received Date:** 3/18/2015 7:10:00 AM

**Matrix:** MEOH (SOIL)

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	3/18/2015 1:33:44 PM	18173
Surr: DNOP	106	63.5-128		%REC	1	3/18/2015 1:33:44 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	3/18/2015 11:52:24 AM	18167
Surr: BFB	90.4	80-120		%REC	1	3/18/2015 11:52:24 AM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.036		mg/Kg	1	3/18/2015 11:52:24 AM	18167
Toluene	ND	0.036		mg/Kg	1	3/18/2015 11:52:24 AM	18167
Ethylbenzene	ND	0.036		mg/Kg	1	3/18/2015 11:52:24 AM	18167
Xylenes, Total	ND	0.072		mg/Kg	1	3/18/2015 11:52:24 AM	18167
Surr: 4-Bromofluorobenzene	104	80-120		%REC	1	3/18/2015 11:52:24 AM	18167

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates      Client Sample ID: SC-7  
 Project: Lateral C-7      Collection Date: 3/17/2015 10:21:00 AM  
 Lab ID: 1503746-003      Matrix: MEOH (SOIL)      Received Date: 3/18/2015 7:10:00 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	3/18/2015 1:55:25 PM	18173
Surr: DNOP	104	63.5-128		%REC	1	3/18/2015 1:55:25 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	3/18/2015 12:21:12 PM	18167
Surr: BFB	92.8	80-120		%REC	1	3/18/2015 12:21:12 PM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.036		mg/Kg	1	3/18/2015 12:21:12 PM	18167
Toluene	ND	0.036		mg/Kg	1	3/18/2015 12:21:12 PM	18167
Ethylbenzene	ND	0.036		mg/Kg	1	3/18/2015 12:21:12 PM	18167
Xylenes, Total	ND	0.071		mg/Kg	1	3/18/2015 12:21:12 PM	18167
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	3/18/2015 12:21:12 PM	18167
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/18/2015 10:41:27 AM	18203

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

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

**Analytical Report**

Lab Order 1503746

Date Reported: 3/19/2015

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-8

**Project:** Lateral C-7

**Collection Date:** 3/17/2015 10:24:00 AM

**Lab ID:** 1503746-004

**Matrix:** MEOH (SOIL)

**Received Date:** 3/18/2015 7:10:00 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	3/18/2015 2:17:18 PM	18173
Surr: DNOP	109	63.5-128		%REC	1	3/18/2015 2:17:18 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	3/18/2015 12:49:55 PM	18167
Surr: BFB	126	80-120	S	%REC	1	3/18/2015 12:49:55 PM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	3/18/2015 12:49:55 PM	18167
Toluene	ND	0.032		mg/Kg	1	3/18/2015 12:49:55 PM	18167
Ethylbenzene	ND	0.032		mg/Kg	1	3/18/2015 12:49:55 PM	18167
Xylenes, Total	ND	0.063		mg/Kg	1	3/18/2015 12:49:55 PM	18167
Surr: 4-Bromofluorobenzene	118	80-120		%REC	1	3/18/2015 12:49:55 PM	18167

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503746

Date Reported: 3/19/2015

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-9

**Project:** Lateral C-7

**Collection Date:** 3/17/2015 10:27:00 AM

**Lab ID:** 1503746-005

**Matrix:** MEOH (SOIL)

**Received Date:** 3/18/2015 7:10:00 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)	24	10		mg/Kg	1	3/18/2015 2:39:02 PM	18173
Surr: DNOP	103	63.5-128		%REC	1	3/18/2015 2:39:02 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	3/18/2015 1:18:37 PM	18167
Surr: BFB	90.6	80-120		%REC	1	3/18/2015 1:18:37 PM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.033		mg/Kg	1	3/18/2015 1:18:37 PM	18167
Toluene	ND	0.033		mg/Kg	1	3/18/2015 1:18:37 PM	18167
Ethylbenzene	ND	0.033		mg/Kg	1	3/18/2015 1:18:37 PM	18167
Xylenes, Total	ND	0.066		mg/Kg	1	3/18/2015 1:18:37 PM	18167
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	3/18/2015 1:18:37 PM	18167
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/18/2015 10:53:53 AM	18203

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates  
 Project: Lateral C-7  
 Lab ID: 1503746-006

Client Sample ID: SC-10  
 Collection Date: 3/17/2015 10:30:00 AM  
 Matrix: MEOH (SOIL) Received Date: 3/18/2015 7:10:00 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	3/18/2015 3:02:17 PM	18173
Surr: DNOP	103	63.5-128		%REC	1	3/18/2015 3:02:17 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	3/18/2015 7:03:18 PM	18167
Surr: BFB	91.9	80-120		%REC	1	3/18/2015 7:03:18 PM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.032		mg/Kg	1	3/18/2015 7:03:18 PM	18167
Toluene	ND	0.032		mg/Kg	1	3/18/2015 7:03:18 PM	18167
Ethylbenzene	ND	0.032		mg/Kg	1	3/18/2015 7:03:18 PM	18167
Xylenes, Total	ND	0.064		mg/Kg	1	3/18/2015 7:03:18 PM	18167
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	3/18/2015 7:03:18 PM	18167
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	ND	30		mg/Kg	20	3/18/2015 11:06:17 AM	18203

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

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

**Analytical Report**

Lab Order 1503746

Date Reported: 3/19/2015

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-11

**Project:** Lateral C-7

**Collection Date:** 3/17/2015 10:33:00 AM

**Lab ID:** 1503746-007

**Matrix:** MEOH (SOIL)

**Received Date:** 3/18/2015 7:10:00 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)	25	9.9		mg/Kg	1	3/18/2015 3:24:05 PM	18173
Surr: DNOP	110	63.5-128		%REC	1	3/18/2015 3:24:05 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	3/18/2015 7:32:05 PM	18167
Surr: BFB	108	80-120		%REC	1	3/18/2015 7:32:05 PM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.033		mg/Kg	1	3/18/2015 7:32:05 PM	18167
Toluene	ND	0.033		mg/Kg	1	3/18/2015 7:32:05 PM	18167
Ethylbenzene	ND	0.033		mg/Kg	1	3/18/2015 7:32:05 PM	18167
Xylenes, Total	ND	0.067		mg/Kg	1	3/18/2015 7:32:05 PM	18167
Surr: 4-Bromofluorobenzene	109	80-120		%REC	1	3/18/2015 7:32:05 PM	18167

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

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

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-12

**Project:** Lateral C-7

**Collection Date:** 3/17/2015 10:36:00 AM

**Lab ID:** 1503746-008

**Matrix:** MEOH (SOIL)

**Received Date:** 3/18/2015 7:10:00 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	3/18/2015 3:46:00 PM	18173
Surr: DNOP	100	63.5-128		%REC	1	3/18/2015 3:46:00 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	4.1	2.9		mg/Kg	1	3/18/2015 8:00:49 PM	18167
Surr: BFB	125	80-120	S	%REC	1	3/18/2015 8:00:49 PM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.029		mg/Kg	1	3/18/2015 8:00:49 PM	18167
Toluene	ND	0.029		mg/Kg	1	3/18/2015 8:00:49 PM	18167
Ethylbenzene	ND	0.029		mg/Kg	1	3/18/2015 8:00:49 PM	18167
Xylenes, Total	ND	0.059		mg/Kg	1	3/18/2015 8:00:49 PM	18167
Surr: 4-Bromofluorobenzene	108	80-120		%REC	1	3/18/2015 8:00:49 PM	18167
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/18/2015 11:18:41 AM	18203

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates      Client Sample ID: SC-13  
 Project: Lateral C-7      Collection Date: 3/17/2015 10:39:00 AM  
 Lab ID: 1503746-009      Matrix: MEOH (SOIL)      Received Date: 3/18/2015 7:10:00 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	3/18/2015 4:07:36 PM	18173
Surr: DNOP	103	63.5-128		%REC	1	3/18/2015 4:07:36 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	3/18/2015 8:29:31 PM	18167
Surr: BFB	91.6	80-120		%REC	1	3/18/2015 8:29:31 PM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.030		mg/Kg	1	3/18/2015 8:29:31 PM	18167
Toluene	ND	0.030		mg/Kg	1	3/18/2015 8:29:31 PM	18167
Ethylbenzene	ND	0.030		mg/Kg	1	3/18/2015 8:29:31 PM	18167
Xylenes, Total	ND	0.059		mg/Kg	1	3/18/2015 8:29:31 PM	18167
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	3/18/2015 8:29:31 PM	18167

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503746

19-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	MB-18203	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	18203	RunNo:	24924					
Prep Date:	3/18/2015	Analysis Date:	3/18/2015	SeqNo:	734344	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-18203	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	18203	RunNo:	24924					
Prep Date:	3/18/2015	Analysis Date:	3/18/2015	SeqNo:	734345	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.4	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503746

19-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	MB-18173	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	18173	RunNo:	24890					
Prep Date:	3/18/2015	Analysis Date:	3/18/2015	SeqNo:	733846	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	10		10.00		100	63.5	128			

Sample ID	LCS-18173	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	18173	RunNo:	24890					
Prep Date:	3/18/2015	Analysis Date:	3/18/2015	SeqNo:	733847	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.7	67.8	130			
Surr: DNOP	4.3		5.000		85.3	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 Not In Range
- RL Reporting Detection Limit

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

WO#: 1503746  
 19-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID <b>MB-18167</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>18167</b>		RunNo: <b>24903</b>							
Prep Date: <b>3/16/2015</b>	Analysis Date: <b>3/18/2015</b>		SeqNo: <b>733915</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	910		1000		90.5	80	120			

Sample ID <b>LCS-18167</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>18167</b>		RunNo: <b>24903</b>							
Prep Date: <b>3/16/2015</b>	Analysis Date: <b>3/18/2015</b>		SeqNo: <b>733916</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	64	130			
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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503746

19-Mar-15

**Client:** Souder, Miller and Associates

**Project:** Lateral C-7

Sample ID	<b>MB-18167</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18167</b>	RunNo:	<b>24903</b>					
Prep Date:	<b>3/16/2015</b>	Analysis Date:	<b>3/18/2015</b>	SeqNo:	<b>733941</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		104	80	120			

Sample ID	<b>LCS-18167</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18167</b>	RunNo:	<b>24903</b>					
Prep Date:	<b>3/16/2015</b>	Analysis Date:	<b>3/18/2015</b>	SeqNo:	<b>733942</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.050	1.000	0	122	76.6	128			
Toluene	1.1	0.050	1.000	0	115	75	124			
Ethylbenzene	1.2	0.050	1.000	0	116	79.5	126			
Xylenes, Total	3.4	0.10	3.000	0	115	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	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 Not In Range
- RL Reporting Detection Limit



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

# Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1503746

RcptNo: 1

Received by/date: *AT* *03/18/15*  
 Logged By: Lindsay Mangin 3/18/2015 7:10:00 AM *[Signature]*  
 Completed By: Lindsay Mangin 3/18/2015 7:19:53 AM *[Signature]*  
 Reviewed By: *AT 03/18/15*

**Chain of Custody**

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

**Log In**

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

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

**Special Handling (if applicable)**

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

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

17. Additional remarks:

**18. Cooler Information**

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

# Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W Broadway  
Farmington, NM 87401

Phone #: 505 325 3478

email or Fax#: Steve.Moskal@Soudo.com

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

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

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

Turn-Around Time:  
 Standard  Rush Same day

Project Name:  
Lateral C-7

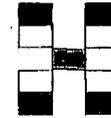
Project #:  
N20609

Project Manager:  
Steve Moskal

Sampler:  
J. Sprague

On Ice:  Yes  No

Sample Temperature:  
14.0



## 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 + TPB (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (CRO / 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)	300.0 Chlorides	Air Bubbles (Y or N)
3-17	1015	Soil	SC-5	1402 Meq/L	NaOH	1503416 -001	X	X	X									X	
	1018		SC-6			-002	X	X											
	1021		SC-7			-003	X	X										X	
	1024		SC-8			-004	X	X											
	1027		SC-9			-005	X	X										X	
	1030		SC-10			-006	X	X										X	
	1033		SC-11			-007	X	X										X	NO <sup>+</sup> II
	1036		SC-12			-008	X	X										X	
	1039		SC-13			-009	X	X											

Date: 3/17/15 Time: 1810 Relinquished by: G-ESM Received by: Christy Wale Date: 3/17/15 Time: 1810 Remarks: Bill Entoprise

Date: 3/17/15 Time: 1841 Relinquished by: Christy Wale Received by: Steve Moskal Date: 03/18/15 Time: 0710 Remarks: Please copy  
Jesse.Sprague@soudonilo.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.



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)

March 23, 2015

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

RE: Lateral C-7

OrderNo.: 1503845

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 20 sample(s) on 3/19/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

**Analytical Report**  
 Lab Order 1503845  
 Date Reported: 3/23/2015

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-14 N Wall

**Project:** Lateral C-7

**Collection Date:** 3/18/2015 1:43:00 PM

**Lab ID:** 1503845-001

**Matrix:** SOIL

**Received Date:** 3/19/2015 8:05:00 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	3/19/2015 10:34:09 AM	18221
Surr: DNOP	107	63.5-128		%REC	1	3/19/2015 10:34:09 AM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.8		mg/Kg	1	3/19/2015 2:24:40 PM	18213
Surr: BFB	92.2	80-120		%REC	1	3/19/2015 2:24:40 PM	18213
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.028		mg/Kg	1	3/19/2015 2:24:40 PM	18213
Toluene	ND	0.028		mg/Kg	1	3/19/2015 2:24:40 PM	18213
Ethylbenzene	ND	0.028		mg/Kg	1	3/19/2015 2:24:40 PM	18213
Xylenes, Total	ND	0.056		mg/Kg	1	3/19/2015 2:24:40 PM	18213
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	3/19/2015 2:24:40 PM	18213
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 11:22:22 AM	18226

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 1 of 30
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503845

Date Reported: 3/23/2015

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-15 N Back

**Project:** Lateral C-7

**Collection Date:** 3/18/2015 1:46:00 PM

**Lab ID:** 1503845-002

**Matrix:** SOIL

**Received Date:** 3/19/2015 8:05:00 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	3/19/2015 11:01:40 AM	18221
Surr: DNOP	117	63.5-128		%REC	1	3/19/2015 11:01:40 AM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.9		mg/Kg	1	3/19/2015 10:05:57 AM	18213
Surr: BFB	92.8	80-120		%REC	1	3/19/2015 10:05:57 AM	18213
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.029		mg/Kg	1	3/19/2015 10:05:57 AM	18213
Toluene	ND	0.029		mg/Kg	1	3/19/2015 10:05:57 AM	18213
Ethylbenzene	ND	0.029		mg/Kg	1	3/19/2015 10:05:57 AM	18213
Xylenes, Total	ND	0.057		mg/Kg	1	3/19/2015 10:05:57 AM	18213
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	3/19/2015 10:05:57 AM	18213
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 11:59:35 AM	18226

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
 Lab Order 1503845  
 Date Reported: 3/23/2015

CLIENT: Souder, Miller and Associates  
 Project: Lateral C-7  
 Lab ID: 1503845-003

Client Sample ID: SC-16 N Wall Deep  
 Collection Date: 3/18/2015 1:49:00 PM  
 Received Date: 3/19/2015 8:05:00 AM

Matrix: SOIL

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	3/19/2015 11:28:54 AM	18221
Surr: DNOP	121	63.5-128		%REC	1	3/19/2015 11:28:54 AM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	3/19/2015 10:34:46 AM	18213
Surr: BFB	93.4	80-120		%REC	1	3/19/2015 10:34:46 AM	18213
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.030		mg/Kg	1	3/19/2015 10:34:46 AM	18213
Toluene	ND	0.030		mg/Kg	1	3/19/2015 10:34:46 AM	18213
Ethylbenzene	ND	0.030		mg/Kg	1	3/19/2015 10:34:46 AM	18213
Xylenes, Total	ND	0.061		mg/Kg	1	3/19/2015 10:34:46 AM	18213
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	3/19/2015 10:34:46 AM	18213
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 12:12:00 PM	18226

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-17 N Deep Base

Project: Lateral C-7

Collection Date: 3/18/2015 1:52:00 PM

Lab ID: 1503845-004

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 12:01:59 PM	18221
Surr: DNOP	114	63.5-128		%REC	1	3/19/2015 12:01:59 PM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	3/19/2015 2:53:25 PM	R24929
Surr: BFB	93.6	80-120		%REC	1	3/19/2015 2:53:25 PM	R24929
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.033		mg/Kg	1	3/19/2015 2:53:25 PM	R24929
Toluene	ND	0.033		mg/Kg	1	3/19/2015 2:53:25 PM	R24929
Ethylbenzene	ND	0.033		mg/Kg	1	3/19/2015 2:53:25 PM	R24929
Xylenes, Total	ND	0.067		mg/Kg	1	3/19/2015 2:53:25 PM	R24929
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	3/19/2015 2:53:25 PM	R24929
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 12:49:13 PM	18226

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
 Lab Order 1503845  
 Date Reported: 3/23/2015

CLIENT: Souder, Miller and Associates  
 Project: Lateral C-7  
 Lab ID: 1503845-005

Client Sample ID: SC-18 S Deep Base  
 Collection Date: 3/18/2015 1:55:00 PM  
 Received Date: 3/19/2015 8:05:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: JME
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/19/2015 12:29:22 PM	18221
Surr: DNOP	115	63.5-128		%REC	1	3/19/2015 12:29:22 PM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	3/19/2015 11:03:30 AM	18213
Surr: BFB	94.3	80-120		%REC	1	3/19/2015 11:03:30 AM	18213
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.033		mg/Kg	1	3/19/2015 11:03:30 AM	18213
Toluene	ND	0.033		mg/Kg	1	3/19/2015 11:03:30 AM	18213
Ethylbenzene	ND	0.033		mg/Kg	1	3/19/2015 11:03:30 AM	18213
Xylenes, Total	ND	0.066		mg/Kg	1	3/19/2015 11:03:30 AM	18213
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	3/19/2015 11:03:30 AM	18213
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	ND	30		mg/Kg	20	3/19/2015 1:01:38 PM	18226

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

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

Analytical Report

Lab Order 1503845

Date Reported: 3/23/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-19 S Deep Wall

Project: Lateral C-7

Collection Date: 3/18/2015 1:58:00 PM

Lab ID: 1503845-006

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 10:38:27 AM	18221
Surr: DNOP	106	63.5-128		%REC	1	3/19/2015 10:38:27 AM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.8		mg/Kg	1	3/19/2015 11:32:18 AM	18213
Surr: BFB	93.5	80-120		%REC	1	3/19/2015 11:32:18 AM	18213
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.028		mg/Kg	1	3/19/2015 11:32:18 AM	18213
Toluene	ND	0.028		mg/Kg	1	3/19/2015 11:32:18 AM	18213
Ethylbenzene	ND	0.028		mg/Kg	1	3/19/2015 11:32:18 AM	18213
Xylenes, Total	ND	0.056		mg/Kg	1	3/19/2015 11:32:18 AM	18213
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	3/19/2015 11:32:18 AM	18213
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 1:14:02 PM	18226

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503845

Date Reported: 3/23/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-20 S Back

Project: Lateral C-7

Collection Date: 3/18/2015 2:01:00 PM

Lab ID: 1503845-007

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 10:59:55 AM	18221
Surr: DNOP	107	63.5-128		%REC	1	3/19/2015 10:59:55 AM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	3/19/2015 7:11:46 PM	R24929
Surr: BFB	92.4	80-120		%REC	1	3/19/2015 7:11:46 PM	R24929
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	3/19/2015 7:11:46 PM	R24929
Toluene	ND	0.032		mg/Kg	1	3/19/2015 7:11:46 PM	R24929
Ethylbenzene	ND	0.032		mg/Kg	1	3/19/2015 7:11:46 PM	R24929
Xylenes, Total	ND	0.064		mg/Kg	1	3/19/2015 7:11:46 PM	R24929
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	3/19/2015 7:11:46 PM	R24929
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 1:26:27 PM	18226

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

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

**Hall Environmental Analysis Laboratory, Inc.**

**Analytical Report**  
 Lab Order 1503845  
 Date Reported: 3/23/2015

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-21 S Wall

**Project:** Lateral C-7

**Collection Date:** 3/18/2015 2:04:00 PM

**Lab ID:** 1503845-008

**Matrix:** SOIL

**Received Date:** 3/19/2015 8:05:00 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	3/19/2015 11:21:29 AM	18221
Surr: DNOP	98.4	63.5-128		%REC	1	3/19/2015 11:21:29 AM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	3/19/2015 12:01:01 PM	18213
Surr: BFB	93.7	80-120		%REC	1	3/19/2015 12:01:01 PM	18213
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.031		mg/Kg	1	3/19/2015 12:01:01 PM	18213
Toluene	ND	0.031		mg/Kg	1	3/19/2015 12:01:01 PM	18213
Ethylbenzene	ND	0.031		mg/Kg	1	3/19/2015 12:01:01 PM	18213
Xylenes, Total	ND	0.062		mg/Kg	1	3/19/2015 12:01:01 PM	18213
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	3/19/2015 12:01:01 PM	18213
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 1:38:51 PM	18226

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
 Lab Order 1503845  
 Date Reported: 3/23/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-22 NE Wall

Project: Lateral C-7

Collection Date: 3/18/2015 2:07:00 PM

Lab ID: 1503845-009

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 11:42:50 AM	18221
Surr: DNOP	102	63.5-128		%REC	1	3/19/2015 11:42:50 AM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	3/19/2015 7:40:31 PM	R24929
Surr: BFB	93.4	80-120		%REC	1	3/19/2015 7:40:31 PM	R24929
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.032		mg/Kg	1	3/19/2015 7:40:31 PM	R24929
Toluene	ND	0.032		mg/Kg	1	3/19/2015 7:40:31 PM	R24929
Ethylbenzene	ND	0.032		mg/Kg	1	3/19/2015 7:40:31 PM	R24929
Xylenes, Total	ND	0.064		mg/Kg	1	3/19/2015 7:40:31 PM	R24929
Surr: 4-Bromofluorobenzene	108	80-120		%REC	1	3/19/2015 7:40:31 PM	R24929
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	ND	30		mg/Kg	20	3/19/2015 1:51:16 PM	18226

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 30
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**Analytical Report**  
 Lab Order 1503845  
 Date Reported: 3/23/2015

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-23 NE Wall 2

**Project:** Lateral C-7

**Collection Date:** 3/18/2015 2:10:00 PM

**Lab ID:** 1503845-010

**Matrix:** SOIL

**Received Date:** 3/19/2015 8:05:00 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	3/19/2015 12:04:23 PM	18221
Surr: DNOP	99.1	63.5-128		%REC	1	3/19/2015 12:04:23 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 2:03:40 PM	18226
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.036		mg/Kg	1	3/19/2015 3:02:05 PM	R24920
Toluene	ND	0.036		mg/Kg	1	3/19/2015 3:02:05 PM	R24920
Ethylbenzene	ND	0.036		mg/Kg	1	3/19/2015 3:02:05 PM	R24920
Xylenes, Total	ND	0.071		mg/Kg	1	3/19/2015 3:02:05 PM	R24920
Surr: 1,2-Dichloroethane-d4	99.1	70-130		%REC	1	3/19/2015 3:02:05 PM	R24920
Surr: 4-Bromofluorobenzene	102	70-130		%REC	1	3/19/2015 3:02:05 PM	R24920
Surr: Dibromofluoromethane	102	70-130		%REC	1	3/19/2015 3:02:05 PM	R24920
Surr: Toluene-d8	88.1	70-130		%REC	1	3/19/2015 3:02:05 PM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	3/19/2015 3:02:05 PM	R24920
Surr: BFB	110	67.4-150		%REC	1	3/19/2015 3:02:05 PM	R24920

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
 Lab Order 1503845  
 Date Reported: 3/23/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-24 E Wall Deep

Project: Lateral C-7

Collection Date: 3/18/2015 2:13:00 PM

Lab ID: 1503845-011

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 12:25:48 PM	18221
Surr: DNOP	101	63.5-128		%REC	1	3/19/2015 12:25:48 PM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.9		mg/Kg	1	3/19/2015 12:29:43 PM	18213
Surr: BFB	94.5	80-120		%REC	1	3/19/2015 12:29:43 PM	18213
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.029		mg/Kg	1	3/19/2015 12:29:43 PM	18213
Toluene	ND	0.029		mg/Kg	1	3/19/2015 12:29:43 PM	18213
Ethylbenzene	ND	0.029		mg/Kg	1	3/19/2015 12:29:43 PM	18213
Xylenes, Total	ND	0.058		mg/Kg	1	3/19/2015 12:29:43 PM	18213
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	3/19/2015 12:29:43 PM	18213
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 2:16:05 PM	18226

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
 Lab Order 1503845  
 Date Reported: 3/23/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-25 E Wall Deep South

Project: Lateral C-7

Collection Date: 3/18/2015 2:16:00 PM

Lab ID: 1503845-012

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 12:47:18 PM	18221
Surr: DNOP	105	63.5-128		%REC	1	3/19/2015 12:47:18 PM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	3/19/2015 12:58:28 PM	18213
Surr: BFB	94.0	80-120		%REC	1	3/19/2015 12:58:28 PM	18213
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	3/19/2015 12:58:28 PM	18213
Toluene	ND	0.032		mg/Kg	1	3/19/2015 12:58:28 PM	18213
Ethylbenzene	ND	0.032		mg/Kg	1	3/19/2015 12:58:28 PM	18213
Xylenes, Total	ND	0.065		mg/Kg	1	3/19/2015 12:58:28 PM	18213
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	3/19/2015 12:58:28 PM	18213
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 2:28:29 PM	18226

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503845

Date Reported: 3/23/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-26 E Wall S

Project: Lateral C-7

Collection Date: 3/18/2015 2:19:00 PM

Lab ID: 1503845-013

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 1:08:43 PM	18221
Surr: DNOP	108	63.5-128		%REC	1	3/19/2015 1:08:43 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 2:40:54 PM	18226
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.035		mg/Kg	1	3/19/2015 11:11:41 AM	R24920
Toluene	ND	0.035		mg/Kg	1	3/19/2015 11:11:41 AM	R24920
Ethylbenzene	ND	0.035		mg/Kg	1	3/19/2015 11:11:41 AM	R24920
Xylenes, Total	ND	0.070		mg/Kg	1	3/19/2015 11:11:41 AM	R24920
Surr: 1,2-Dichloroethane-d4	97.3	70-130		%REC	1	3/19/2015 11:11:41 AM	R24920
Surr: 4-Bromofluorobenzene	99.6	70-130		%REC	1	3/19/2015 11:11:41 AM	R24920
Surr: Dibromofluoromethane	101	70-130		%REC	1	3/19/2015 11:11:41 AM	R24920
Surr: Toluene-d8	94.1	70-130		%REC	1	3/19/2015 11:11:41 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	3/19/2015 11:11:41 AM	R24920
Surr: BFB	110	67.4-150		%REC	1	3/19/2015 11:11:41 AM	R24920

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

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

**Hall Environmental Analysis Laboratory, Inc.**

**Analytical Report**  
 Lab Order 1503845  
 Date Reported: 3/23/2015

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-27 E Wall S2

**Project:** Lateral C-7

**Collection Date:** 3/18/2015 2:22:00 PM

**Lab ID:** 1503845-014

**Matrix:** SOIL

**Received Date:** 3/19/2015 8:05:00 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	3/19/2015 1:30:10 PM	18221
Surr: DNOP	110	63.5-128		%REC	1	3/19/2015 1:30:10 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 3:18:06 PM	18226
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.030		mg/Kg	1	3/19/2015 11:40:28 AM	R24920
Toluene	ND	0.030		mg/Kg	1	3/19/2015 11:40:28 AM	R24920
Ethylbenzene	ND	0.030		mg/Kg	1	3/19/2015 11:40:28 AM	R24920
Xylenes, Total	ND	0.060		mg/Kg	1	3/19/2015 11:40:28 AM	R24920
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	1	3/19/2015 11:40:28 AM	R24920
Surr: 4-Bromofluorobenzene	105	70-130		%REC	1	3/19/2015 11:40:28 AM	R24920
Surr: Dibromofluoromethane	107	70-130		%REC	1	3/19/2015 11:40:28 AM	R24920
Surr: Toluene-d8	96.0	70-130		%REC	1	3/19/2015 11:40:28 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	3/19/2015 11:40:28 AM	R24920
Surr: BFB	111	67.4-150		%REC	1	3/19/2015 11:40:28 AM	R24920

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 14 of 30
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-28 NW Wall

Project: Lateral C-7

Collection Date: 3/18/2015 2:25:00 PM

Lab ID: 1503845-015

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 1:51:33 PM	18221
Surr: DNOP	113	63.5-128		%REC	1	3/19/2015 1:51:33 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	51	30		mg/Kg	20	3/19/2015 3:30:30 PM	18226
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: cadg
Benzene	ND	0.034		mg/Kg	1	3/19/2015 12:09:18 PM	R24920
Toluene	ND	0.034		mg/Kg	1	3/19/2015 12:09:18 PM	R24920
Ethylbenzene	ND	0.034		mg/Kg	1	3/19/2015 12:09:18 PM	R24920
Xylenes, Total	ND	0.068		mg/Kg	1	3/19/2015 12:09:18 PM	R24920
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1	3/19/2015 12:09:18 PM	R24920
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	3/19/2015 12:09:18 PM	R24920
Surr: Dibromofluoromethane	106	70-130		%REC	1	3/19/2015 12:09:18 PM	R24920
Surr: Toluene-d8	93.0	70-130		%REC	1	3/19/2015 12:09:18 PM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: cadg
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	3/19/2015 12:09:18 PM	R24920
Surr: BFB	110	67.4-150		%REC	1	3/19/2015 12:09:18 PM	R24920

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-29 NW Wall 2

Project: Lateral C-7

Collection Date: 3/18/2015 2:28:00 PM

Lab ID: 1503845-016

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 2:13:13 PM	18221
Surr: DNOP	108	63.5-128		%REC	1	3/19/2015 2:13:13 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 3:42:55 PM	18226
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.036		mg/Kg	1	3/19/2015 12:38:02 PM	R24920
Toluene	ND	0.036		mg/Kg	1	3/19/2015 12:38:02 PM	R24920
Ethylbenzene	ND	0.036		mg/Kg	1	3/19/2015 12:38:02 PM	R24920
Xylenes, Total	ND	0.072		mg/Kg	1	3/19/2015 12:38:02 PM	R24920
Surr: 1,2-Dichloroethane-d4	99.4	70-130		%REC	1	3/19/2015 12:38:02 PM	R24920
Surr: 4-Bromofluorobenzene	97.7	70-130		%REC	1	3/19/2015 12:38:02 PM	R24920
Surr: Dibromofluoromethane	103	70-130		%REC	1	3/19/2015 12:38:02 PM	R24920
Surr: Toluene-d8	92.4	70-130		%REC	1	3/19/2015 12:38:02 PM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	3/19/2015 12:38:02 PM	R24920
Surr: BFB	104	67.4-150		%REC	1	3/19/2015 12:38:02 PM	R24920

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 16 of 30
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Analytical Report

Lab Order 1503845

Date Reported: 3/23/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-30 NW Wall 3

Project: Lateral C-7

Collection Date: 3/18/2015 2:31:00 PM

Lab ID: 1503845-017

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 2:34:36 PM	18221
Surr: DNOP	110	63.5-128		%REC	1	3/19/2015 2:34:36 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	ND	30		mg/Kg	20	3/19/2015 3:55:20 PM	18226
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: cadg
Benzene	ND	0.045		mg/Kg	1	3/19/2015 1:06:49 PM	R24920
Toluene	ND	0.045		mg/Kg	1	3/19/2015 1:06:49 PM	R24920
Ethylbenzene	ND	0.045		mg/Kg	1	3/19/2015 1:06:49 PM	R24920
Xylenes, Total	ND	0.089		mg/Kg	1	3/19/2015 1:06:49 PM	R24920
Surr: 1,2-Dichloroethane-d4	98.3	70-130		%REC	1	3/19/2015 1:06:49 PM	R24920
Surr: 4-Bromofluorobenzene	94.3	70-130		%REC	1	3/19/2015 1:06:49 PM	R24920
Surr: Dibromofluoromethane	102	70-130		%REC	1	3/19/2015 1:06:49 PM	R24920
Surr: Toluene-d8	93.6	70-130		%REC	1	3/19/2015 1:06:49 PM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: cadg
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	3/19/2015 1:06:49 PM	R24920
Surr: BFB	104	67.4-150		%REC	1	3/19/2015 1:06:49 PM	R24920

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 17 of 30
E Value above quantitation range	H Holding times for preparation or analysis exceeded		
J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit		
O RSD is greater than RSDlimit	P Sample pH Not In Range		
R RPD outside accepted recovery limits	RL Reporting Detection Limit		
S Spike Recovery outside accepted recovery limits			

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503845

Date Reported: 3/23/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-31 SW Wall

Project: Lateral C-7

Collection Date: 3/18/2015 2:34:00 PM

Lab ID: 1503845-018

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 12:56:58 PM	18221
Surr: DNOP	113	63.5-128		%REC	1	3/19/2015 12:56:58 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 4:32:34 PM	18230
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.032		mg/Kg	1	3/19/2015 1:35:34 PM	R24920
Toluene	ND	0.032		mg/Kg	1	3/19/2015 1:35:34 PM	R24920
Ethylbenzene	ND	0.032		mg/Kg	1	3/19/2015 1:35:34 PM	R24920
Xylenes, Total	ND	0.065		mg/Kg	1	3/19/2015 1:35:34 PM	R24920
Surr: 1,2-Dichloroethane-d4	98.4	70-130		%REC	1	3/19/2015 1:35:34 PM	R24920
Surr: 4-Bromofluorobenzene	93.1	70-130		%REC	1	3/19/2015 1:35:34 PM	R24920
Surr: Dibromofluoromethane	104	70-130		%REC	1	3/19/2015 1:35:34 PM	R24920
Surr: Toluene-d8	89.5	70-130		%REC	1	3/19/2015 1:35:34 PM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	3/19/2015 1:35:34 PM	R24920
Surr: BFB	101	67.4-150		%REC	1	3/19/2015 1:35:34 PM	R24920

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates  
 Project: Lateral C-7  
 Lab ID: 1503845-019

Matrix: SOIL

Client Sample ID: SC-32 SW Wall 2  
 Collection Date: 3/18/2015 2:37:00 PM  
 Received Date: 3/19/2015 8:05:00 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	3/19/2015 1:24:03 PM	18221
Surr: DNOP	116	63.5-128		%REC	1	3/19/2015 1:24:03 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 4:44:58 PM	18230
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.046		mg/Kg	1	3/19/2015 2:04:20 PM	R24920
Toluene	ND	0.046		mg/Kg	1	3/19/2015 2:04:20 PM	R24920
Ethylbenzene	ND	0.046		mg/Kg	1	3/19/2015 2:04:20 PM	R24920
Xylenes, Total	ND	0.093		mg/Kg	1	3/19/2015 2:04:20 PM	R24920
Surr: 1,2-Dichloroethane-d4	97.6	70-130		%REC	1	3/19/2015 2:04:20 PM	R24920
Surr: 4-Bromofluorobenzene	95.2	70-130		%REC	1	3/19/2015 2:04:20 PM	R24920
Surr: Dibromofluoromethane	103	70-130		%REC	1	3/19/2015 2:04:20 PM	R24920
Surr: Toluene-d8	93.1	70-130		%REC	1	3/19/2015 2:04:20 PM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/19/2015 2:04:20 PM	R24920
Surr: BFB	106	67.4-150		%REC	1	3/19/2015 2:04:20 PM	R24920

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503845

Date Reported: 3/23/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-33 SW Wall 3

Project: Lateral C-7

Collection Date: 3/18/2015 2:40:00 PM

Lab ID: 1503845-020

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 1:51:18 PM	18221
Surr: DNOP	115	63.5-128		%REC	1	3/19/2015 1:51:18 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 4:57:23 PM	18230
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.034		mg/Kg	1	3/19/2015 2:33:15 PM	R24920
Toluene	ND	0.034		mg/Kg	1	3/19/2015 2:33:15 PM	R24920
Ethylbenzene	ND	0.034		mg/Kg	1	3/19/2015 2:33:15 PM	R24920
Xylenes, Total	ND	0.067		mg/Kg	1	3/19/2015 2:33:15 PM	R24920
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	3/19/2015 2:33:15 PM	R24920
Surr: 4-Bromofluorobenzene	90.8	70-130		%REC	1	3/19/2015 2:33:15 PM	R24920
Surr: Dibromofluoromethane	106	70-130		%REC	1	3/19/2015 2:33:15 PM	R24920
Surr: Toluene-d8	90.6	70-130		%REC	1	3/19/2015 2:33:15 PM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	3/19/2015 2:33:15 PM	R24920
Surr: BFB	110	67.4-150		%REC	1	3/19/2015 2:33:15 PM	R24920

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

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

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

WO#: 1503845  
 23-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID	<b>MB-18226</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18226</b>	RunNo:	<b>24944</b>					
Prep Date:	<b>3/19/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>735228</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	<b>LCS-18226</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18226</b>	RunNo:	<b>24944</b>					
Prep Date:	<b>3/19/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>735229</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.7	90	110			

Sample ID	<b>MB-18230</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18230</b>	RunNo:	<b>24944</b>					
Prep Date:	<b>3/19/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>735257</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	<b>LCS-18230</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18230</b>	RunNo:	<b>24944</b>					
Prep Date:	<b>3/19/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>735258</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.5	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503845

23-Mar-15

**Client:** Souder, Miller and Associates

**Project:** Lateral C-7

Sample ID <b>MB-18221</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>18221</b>		RunNo: <b>24910</b>							
Prep Date: <b>3/19/2015</b>	Analysis Date: <b>3/19/2015</b>		SeqNo: <b>734182</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	9.7		10.00		97.4	63.5	128			

Sample ID <b>LCS-18221</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>18221</b>		RunNo: <b>24910</b>							
Prep Date: <b>3/19/2015</b>	Analysis Date: <b>3/19/2015</b>		SeqNo: <b>734183</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	50.00	0	101	67.8	130			
Surr: DNOP	4.9		5.000		97.4	63.5	128			

Sample ID <b>MB-18201</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>18201</b>		RunNo: <b>24912</b>							
Prep Date: <b>3/18/2015</b>	Analysis Date: <b>3/19/2015</b>		SeqNo: <b>734292</b>		Units: <b>%REC</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		124	63.5	128			

Sample ID <b>MB-18211</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>18211</b>		RunNo: <b>24910</b>							
Prep Date: <b>3/18/2015</b>	Analysis Date: <b>3/19/2015</b>		SeqNo: <b>734296</b>		Units: <b>%REC</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.6		10.00		95.6	63.5	128			

Sample ID <b>1503845-001AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>SC-14 N Wall</b>	Batch ID: <b>18221</b>		RunNo: <b>24912</b>							
Prep Date: <b>3/19/2015</b>	Analysis Date: <b>3/19/2015</b>		SeqNo: <b>734579</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	50.15	0	104	29.2	176			
Surr: DNOP	5.3		5.015		106	63.5	128			

Sample ID <b>1503845-001AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>SC-14 N Wall</b>	Batch ID: <b>18221</b>		RunNo: <b>24912</b>							
Prep Date: <b>3/19/2015</b>	Analysis Date: <b>3/19/2015</b>		SeqNo: <b>734670</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	50.35	0	106	29.2	176	2.39	23	
Surr: DNOP	5.4		5.035		107	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 Not In Range
- RL Reporting Detection Limit

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

WO#: 1503845  
 23-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID	LCS-18211		SampType:	LCS		TestCode:	EPA Method 8015D: Diesel Range Organics				
Client ID:	LCSS		Batch ID:	18211		RunNo:	24910				
Prep Date:	3/18/2015		Analysis Date:	3/19/2015		SeqNo:	734679		Units: %REC		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	4.6		5.000		91.0	63.5	128				

Sample ID	LCS-18201		SampType:	LCS		TestCode:	EPA Method 8015D: Diesel Range Organics				
Client ID:	LCSS		Batch ID:	18201		RunNo:	24912				
Prep Date:	3/18/2015		Analysis Date:	3/19/2015		SeqNo:	734682		Units: %REC		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	5.0		5.000		99.7	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503845

23-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	<b>MB-18213</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18213</b>	RunNo:	<b>24929</b>					
Prep Date:	<b>3/18/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734777</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-18213</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18213</b>	RunNo:	<b>24929</b>					
Prep Date:	<b>3/18/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734778</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	64	130			
Surr: BFB	1000		1000		100	80	120			

Sample ID	<b>B24</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R24929</b>	RunNo:	<b>24929</b>					
Prep Date:		Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734794</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>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>R24929</b>	RunNo:	<b>24929</b>					
Prep Date:		Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734795</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.8	64	130			
Surr: BFB	1000		1000		101	80	120			

Sample ID	<b>1503845-004AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>SC-17 N Deep Base</b>	Batch ID:	<b>R24929</b>	RunNo:	<b>24929</b>					
Prep Date:		Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734797</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	16	3.3	16.71	0	92.8	47.9	144			
Surr: BFB	660		668.4		99.2	80	120			

Sample ID	<b>1503845-004AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>SC-17 N Deep Base</b>	Batch ID:	<b>R24929</b>	RunNo:	<b>24929</b>					
Prep Date:		Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734798</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 Not In Range
- RL Reporting Detection Limit

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

WO#: 1503845  
 23-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID	1503845-004AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-17 N Deep Base	Batch ID:	R24929	RunNo:	24929					
Prep Date:		Analysis Date:	3/19/2015	SeqNo:	734798	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	18	3.3	16.71	0	107	47.9	144	14.4	29.9	
Surr: BFB	670		668.4		101	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503845

23-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID <b>MB-18213</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>18213</b>	RunNo: <b>24929</b>								
Prep Date: <b>3/18/2015</b>	Analysis Date: <b>3/19/2015</b>	SeqNo: <b>734804</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		107	80	120			

Sample ID <b>LCS-18213</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>18213</b>	RunNo: <b>24929</b>								
Prep Date: <b>3/18/2015</b>	Analysis Date: <b>3/19/2015</b>	SeqNo: <b>734805</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	76.6	128			
Toluene	0.98	0.050	1.000	0	97.8	75	124			
Ethylbenzene	0.97	0.050	1.000	0	96.8	79.5	126			
Xylenes, Total	2.9	0.10	3.000	0	96.7	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

Sample ID <b>B24</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>R24929</b>	RunNo: <b>24929</b>								
Prep Date:	Analysis Date: <b>3/19/2015</b>	SeqNo: <b>734825</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		107	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>R24929</b>	RunNo: <b>24929</b>								
Prep Date:	Analysis Date: <b>3/19/2015</b>	SeqNo: <b>734826</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	115	76.6	128			
Toluene	1.1	0.050	1.000	0	110	75	124			
Ethylbenzene	1.1	0.050	1.000	0	110	79.5	126			
Xylenes, Total	3.3	0.10	3.000	0	109	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503845

23-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID	1503845-007AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles						
Client ID:	SC-20 S Back	Batch ID:	R24929	RunNo:	24929						
Prep Date:		Analysis Date:	3/19/2015	SeqNo:	734829	Units:	mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.37	0.032	0.6414	0.005728	56.3	69.2	126			S	
Toluene	0.34	0.032	0.6414	0.006138	52.5	65.6	128			S	
Ethylbenzene	0.35	0.032	0.6414	0	54.5	65.5	138			S	
Xylenes, Total	1.0	0.064	1.924	0	53.4	63	139			S	
Surr: 4-Bromofluorobenzene	0.72		0.6414		112	80	120				

Sample ID	1503845-007AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles						
Client ID:	SC-20 S Back	Batch ID:	R24929	RunNo:	24929						
Prep Date:		Analysis Date:	3/19/2015	SeqNo:	734830	Units:	mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.73	0.032	0.6414	0.005728	114	69.2	126	66.7	18.5	R	
Toluene	0.69	0.032	0.6414	0.006138	106	65.6	128	66.6	20.6	R	
Ethylbenzene	0.69	0.032	0.6414	0	107	65.5	138	65.1	20.1	R	
Xylenes, Total	2.0	0.064	1.924	0	107	63	139	66.4	21.1	R	
Surr: 4-Bromofluorobenzene	0.75		0.6414		116	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503845

23-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	5mL rb	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	PBS	Batch ID:	R24920	RunNo:	24920					
Prep Date:		Analysis Date:	3/19/2015	SeqNo:	734835	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.0	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		106	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		96.2	70	130			
Surr: Toluene-d8	0.50		0.5000		101	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	LCSS	Batch ID:	R24920	RunNo:	24920					
Prep Date:		Analysis Date:	3/19/2015	SeqNo:	734836	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	107	70	130			
Toluene	1.1	0.050	1.000	0	109	70	130			
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		97.6	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		98.0	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

Sample ID	1503845-013a ms	SampType:	MS	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	SC-26 E Wall S	Batch ID:	R24920	RunNo:	24920					
Prep Date:		Analysis Date:	3/19/2015	SeqNo:	734841	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.78	0.035	0.7047	0	111	57.8	132			
Toluene	0.75	0.035	0.7047	0	106	54.8	139			
Surr: 1,2-Dichloroethane-d4	0.34		0.3524		97.6	70	130			
Surr: 4-Bromofluorobenzene	0.34		0.3524		97.8	70	130			
Surr: Dibromofluoromethane	0.35		0.3524		100	70	130			
Surr: Toluene-d8	0.33		0.3524		94.2	70	130			

Sample ID	1503845-013a msd	SampType:	MSD	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	SC-26 E Wall S	Batch ID:	R24920	RunNo:	24920					
Prep Date:		Analysis Date:	3/20/2015	SeqNo:	734842	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.75	0.035	0.7047	0	107	57.8	132	4.12	20	
Toluene	0.71	0.035	0.7047	0	101	54.8	139	4.92	20	

**Qualifiers:**

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503845

23-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	1503845-013a msd	SampType:	MSD	TestCode:	EPA Method 8260B: Volatiles Short List						
Client ID:	SC-26 E Wall S	Batch ID:	R24920	RunNo:	24920						
Prep Date:		Analysis Date:	3/20/2015	SeqNo:	734842	Units:	mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: 1,2-Dichloroethane-d4	0.34		0.3524		97.7	70	130	0	0		
Surr: 4-Bromofluorobenzene	0.35		0.3524		100	70	130	0	0		
Surr: Dibromofluoromethane	0.37		0.3524		104	70	130	0	0		
Surr: Toluene-d8	0.33		0.3524		94.2	70	130	0	0		

### Qualifiers:

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503845

23-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID: <b>5mL rb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>R24920</b>	RunNo: <b>24920</b>								
Prep Date:	Analysis Date: <b>3/19/2015</b>	SeqNo: <b>734871</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	490		500.0		97.6	67.4	150			

Sample ID: <b>2.5ug gro lcs</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>R24920</b>	RunNo: <b>24920</b>								
Prep Date:	Analysis Date: <b>3/19/2015</b>	SeqNo: <b>734872</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	79.9	135			
Surr: BFB	500		500.0		99.7	67.4	150			

Sample ID: <b>1503845-014a ms</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>								
Client ID: <b>SC-27 E Wall S2</b>	Batch ID: <b>R24920</b>	RunNo: <b>24920</b>								
Prep Date:	Analysis Date: <b>3/20/2015</b>	SeqNo: <b>734876</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	14	3.0	15.11	0	93.3	65.2	156			
Surr: BFB	330		302.1		108	67.4	150			

Sample ID: <b>1503845-014a msd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>								
Client ID: <b>SC-27 E Wall S2</b>	Batch ID: <b>R24920</b>	RunNo: <b>24920</b>								
Prep Date:	Analysis Date: <b>3/20/2015</b>	SeqNo: <b>734877</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	13	3.0	15.11	0	89.3	65.2	156	4.34	20	
Surr: BFB	320		302.1		107	67.4	150	0	0	

**Qualifiers:**

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



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: 1503845

RcptNo: 1

Received by/date: AS 03/19/15

Logged By: Anne Thorne 3/19/2015 8:05:00 AM *Anne Thorne*

Completed By: Anne Thorne 3/19/2015 *Anne Thorne*

Reviewed By: *[Signature]* *03/19/15*

**Chain of Custody**

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

**Log In**

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

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

**Special Handling (if applicable)**

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

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

17. Additional remarks:

**18. Cooler Information**

Cooler No.	Temp.°C	Condition	Seal Intact	Seal No.	Seal Date	Signed By
1	1.3	Good	Yes			

# Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W Broadway

Farmington NM 87401

Phone #: 505 325 7535

Email or Fax#: Steven.Moskal@soodsmills.com

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

Accreditation:  NELAP  Other

EDD (Type)

Turn-Around Time:

Standard  Rush Same Day

Project Name: Lateral C-7

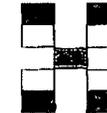
Project #: N20609

Project Manager: Steve Moskal

Sampler: J. Sprague

On Ice:  Yes  No

Sample Temperature: 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 (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)	300.0 chlorides	Air Bubbles (Y or N)
1-18	1343	Soil	SC-14 N wall	1 4oz Meash kit	MeOH	1503845	X		X									X	
	1346		SC-15 N Bench				X		X									X	
	1349		SC-16 N wall deep				X		X									X	
	1352		SC-17 N Deep Base				X		X									X	
	1355		SC-18 S Deep Base				X		X									X	
	1358		SC-19 S Deep wall				X		X									X	
	1401		SC-20 S Bench				X		X									X	
	1404		SC-21 S wall				X		X									X	
	1407		SC-22 NE wall				X		X									X	
	1410		SC-23 W wall 2				X		X									X	
	1413		SC-24 E wall Deep				X		X									X	
	1416		SC-25 E wall Deep South				X		X									X	

Date: 1-18 Time: 1900 Relinquished by: Jesse Sprague

Received by: Christina Walker Date Time: 3/18/19 1900

Remarks: Invoice Enterprise

Date: 18/15 Time: 2005 Relinquished by: Christina Walker

Received by: Christina Walker Date Time: 03/19/15 0805

Please copy Jesse.Sprague@soodsmills.com

If possible, 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.

# Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W Broadway

Farmington NM 87401

Phone #: 505 325 7535

Email or Fax#: Steven.moskal@spodsmiller.com

QA/QC Package:

Standard  Level 4 (Full Validation)

Accreditation

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

EDD (Type)

Turn-Around Time:

Standard  Rush Same day

Project Name: Lateral C-7

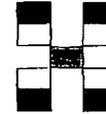
Project #: N20809

Project Manager: Steve Moskal

Sampler: J. Sprague

On Ice:  Yes  No

Sample Temperature: 10



## 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 + PAMS (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)	
-18	1419	soil	SC-26 E wall 5	1402	Medu	1503845	X		X										X	
	1422		SC-27 E wall 5 2				X		X										X	
	1425		SC-28 NW wall				X		X										X	
	1428		SC-29 NW wall 2				X		X										X	
	1431		SC-30 NW wall 3				X		X										X	
	1434		SC-31 SW wall				X		X										X	
	1437		SC-32 SW wall 2				X		X										X	
	1440		SC-33 SW wall 3				X		X										X	

Date: -18 Time: 1900 Relinquished by: J-ES

Received by: Charlotte Walls Date: 3/18/15 Time: 1900

Remarks: Invoice Entoprise

Date: 3/18/15 Time: 2005 Relinquished by: Charlotte Walls

Received by: Jesse Sprague Date: 03/19

Please copy Jesse.Sprague@spodsmiller.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  
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TEL: 505-345-3975 FAX: 505-345-4107  
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March 25, 2015

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

RE: Lateral C-7

OrderNo.: 1503850

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 7 sample(s) on 3/19/2015 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 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-34 250-300' W Bar ditch

**Project:** Lateral C-7

**Collection Date:** 3/18/2015 2:43:00 PM

**Lab ID:** 1503850-001

**Matrix:** SOIL

**Received Date:** 3/19/2015 8:05:00 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	3/20/2015 8:27:48 AM	18222
Surr: DNOP	115	63.5-128		%REC	1	3/20/2015 8:27:48 AM	18222
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.048		mg/Kg	1	3/20/2015 1:34:51 AM	R24920
Toluene	ND	0.048		mg/Kg	1	3/20/2015 1:34:51 AM	R24920
Ethylbenzene	ND	0.048		mg/Kg	1	3/20/2015 1:34:51 AM	R24920
Xylenes, Total	ND	0.097		mg/Kg	1	3/20/2015 1:34:51 AM	R24920
Surr: 1,2-Dichloroethane-d4	97.6	70-130		%REC	1	3/20/2015 1:34:51 AM	R24920
Surr: 4-Bromofluorobenzene	95.3	70-130		%REC	1	3/20/2015 1:34:51 AM	R24920
Surr: Dibromofluoromethane	103	70-130		%REC	1	3/20/2015 1:34:51 AM	R24920
Surr: Toluene-d8	91.9	70-130		%REC	1	3/20/2015 1:34:51 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/20/2015 1:34:51 AM	R24920
Surr: BFB	104	67.4-150		%REC	1	3/20/2015 1:34:51 AM	R24920

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-35 200-250" W Bar ditch

Project: Lateral C-7

Collection Date: 3/18/2015 2:46:00 PM

Lab ID: 1503850-002

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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)	14	9.8		mg/Kg	1	3/20/2015 9:32:22 AM	18222
Surr: DNOP	118	63.5-128		%REC	1	3/20/2015 9:32:22 AM	18222
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	100	30		mg/Kg	20	3/19/2015 5:59:26 PM	18230
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.045		mg/Kg	1	3/20/2015 2:03:39 AM	R24920
Toluene	ND	0.045		mg/Kg	1	3/20/2015 2:03:39 AM	R24920
Ethylbenzene	ND	0.045		mg/Kg	1	3/20/2015 2:03:39 AM	R24920
Xylenes, Total	ND	0.089		mg/Kg	1	3/20/2015 2:03:39 AM	R24920
Surr: 1,2-Dichloroethane-d4	98.4	70-130		%REC	1	3/20/2015 2:03:39 AM	R24920
Surr: 4-Bromofluorobenzene	96.2	70-130		%REC	1	3/20/2015 2:03:39 AM	R24920
Surr: Dibromofluoromethane	102	70-130		%REC	1	3/20/2015 2:03:39 AM	R24920
Surr: Toluene-d8	92.9	70-130		%REC	1	3/20/2015 2:03:39 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	3/20/2015 2:03:39 AM	R24920
Surr: BFB	114	67.4-150		%REC	1	3/20/2015 2:03:39 AM	R24920

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

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

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates  
**Project:** Lateral C-7  
**Lab ID:** 1503850-003

**Client Sample ID:** SC-36 150-200' W Bar Ditch  
**Collection Date:** 3/18/2015 2:49:00 PM  
**Received Date:** 3/19/2015 8:05:00 AM

**Matrix:** SOIL

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	3/20/2015 9:53:49 AM	18222
Surr: DNOP	107	63.5-128		%REC	1	3/20/2015 9:53:49 AM	18222
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.058		mg/Kg	1	3/20/2015 2:32:28 AM	R24920
Toluene	ND	0.058		mg/Kg	1	3/20/2015 2:32:28 AM	R24920
Ethylbenzene	ND	0.058		mg/Kg	1	3/20/2015 2:32:28 AM	R24920
Xylenes, Total	ND	0.12		mg/Kg	1	3/20/2015 2:32:28 AM	R24920
Surr: 1,2-Dichloroethane-d4	96.3	70-130		%REC	1	3/20/2015 2:32:28 AM	R24920
Surr: 4-Bromofluorobenzene	96.0	70-130		%REC	1	3/20/2015 2:32:28 AM	R24920
Surr: Dibromofluoromethane	100	70-130		%REC	1	3/20/2015 2:32:28 AM	R24920
Surr: Toluene-d8	89.2	70-130		%REC	1	3/20/2015 2:32:28 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	5.8		mg/Kg	1	3/20/2015 2:32:28 AM	R24920
Surr: BFB	101	67.4-150		%REC	1	3/20/2015 2:32:28 AM	R24920

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503850

Date Reported: 3/25/2015

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-37 100-150' W Bar Ditch

**Project:** Lateral C-7

**Collection Date:** 3/18/2015 2:52:00 PM

**Lab ID:** 1503850-004

**Matrix:** SOIL

**Received Date:** 3/19/2015 8:05:00 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	10		mg/Kg	1	3/20/2015 12:23:20 PM	18222
Surr: DNOP	106	63.5-128		%REC	1	3/20/2015 12:23:20 PM	18222
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	33	30		mg/Kg	20	3/19/2015 6:11:51 PM	18230
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.039		mg/Kg	1	3/20/2015 3:01:16 AM	R24920
Toluene	ND	0.039		mg/Kg	1	3/20/2015 3:01:16 AM	R24920
Ethylbenzene	ND	0.039		mg/Kg	1	3/20/2015 3:01:16 AM	R24920
Xylenes, Total	ND	0.079		mg/Kg	1	3/20/2015 3:01:16 AM	R24920
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	3/20/2015 3:01:16 AM	R24920
Surr: 4-Bromofluorobenzene	95.9	70-130		%REC	1	3/20/2015 3:01:16 AM	R24920
Surr: Dibromofluoromethane	106	70-130		%REC	1	3/20/2015 3:01:16 AM	R24920
Surr: Toluene-d8	92.2	70-130		%REC	1	3/20/2015 3:01:16 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	3/20/2015 3:01:16 AM	R24920
Surr: BFB	106	67.4-150		%REC	1	3/20/2015 3:01:16 AM	R24920

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 12
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Analytical Report**

Lab Order 1503850

Date Reported: 3/25/2015

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-38 50-100' W Bar Ditch

**Project:** Lateral C-7

**Collection Date:** 3/18/2015 2:55:00 PM

**Lab ID:** 1503850-005

**Matrix:** SOIL

**Received Date:** 3/19/2015 8:05:00 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)	41	9.8		mg/Kg	1	3/20/2015 9:22:36 AM	18222
Surr: DNOP	114	63.5-128		%REC	1	3/20/2015 9:22:36 AM	18222
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.043		mg/Kg	1	3/20/2015 3:30:05 AM	R24920
Toluene	0.047	0.043		mg/Kg	1	3/20/2015 3:30:05 AM	R24920
Ethylbenzene	ND	0.043		mg/Kg	1	3/20/2015 3:30:05 AM	R24920
Xylenes, Total	ND	0.086		mg/Kg	1	3/20/2015 3:30:05 AM	R24920
Surr: 1,2-Dichloroethane-d4	95.4	70-130		%REC	1	3/20/2015 3:30:05 AM	R24920
Surr: 4-Bromofluorobenzene	98.7	70-130		%REC	1	3/20/2015 3:30:05 AM	R24920
Surr: Dibromofluoromethane	99.1	70-130		%REC	1	3/20/2015 3:30:05 AM	R24920
Surr: Toluene-d8	89.0	70-130		%REC	1	3/20/2015 3:30:05 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	11	4.3		mg/Kg	1	3/20/2015 3:30:05 AM	R24920
Surr: BFB	109	67.4-150		%REC	1	3/20/2015 3:30:05 AM	R24920

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503850

Date Reported: 3/25/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-39 0-50' W Bar Ditch

Project: Lateral C-7

Collection Date: 3/18/2015 2:58:00 PM

Lab ID: 1503850-006

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/20/2015 9:49:48 AM	18222
Surr: DNOP	116	63.5-128		%REC	1	3/20/2015 9:49:48 AM	18222
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 6:24:15 PM	18230
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.037		mg/Kg	1	3/20/2015 3:58:53 AM	R24920
Toluene	ND	0.037		mg/Kg	1	3/20/2015 3:58:53 AM	R24920
Ethylbenzene	ND	0.037		mg/Kg	1	3/20/2015 3:58:53 AM	R24920
Xylenes, Total	ND	0.074		mg/Kg	1	3/20/2015 3:58:53 AM	R24920
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	3/20/2015 3:58:53 AM	R24920
Surr: 4-Bromofluorobenzene	98.8	70-130		%REC	1	3/20/2015 3:58:53 AM	R24920
Surr: Dibromofluoromethane	104	70-130		%REC	1	3/20/2015 3:58:53 AM	R24920
Surr: Toluene-d8	91.1	70-130		%REC	1	3/20/2015 3:58:53 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	3/20/2015 3:58:53 AM	R24920
Surr: BFB	108	67.4-150		%REC	1	3/20/2015 3:58:53 AM	R24920

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503850

Date Reported: 3/25/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-40 Background

Project: Lateral C-7

Collection Date: 3/18/2015 3:01:00 PM

Lab ID: 1503850-007

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/20/2015 10:16:54 AM	18222
Surr: DNOP	114	63.5-128		%REC	1	3/20/2015 10:16:54 AM	18222
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	ND	30		mg/Kg	20	3/24/2015 10:51:49 AM	18295
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: cadg
Benzene	ND	0.046		mg/Kg	1	3/20/2015 4:27:37 AM	R24920
Toluene	ND	0.046		mg/Kg	1	3/20/2015 4:27:37 AM	R24920
Ethylbenzene	ND	0.046		mg/Kg	1	3/20/2015 4:27:37 AM	R24920
Xylenes, Total	ND	0.091		mg/Kg	1	3/20/2015 4:27:37 AM	R24920
Surr: 1,2-Dichloroethane-d4	98.0	70-130		%REC	1	3/20/2015 4:27:37 AM	R24920
Surr: 4-Bromofluorobenzene	104	70-130		%REC	1	3/20/2015 4:27:37 AM	R24920
Surr: Dibromofluoromethane	101	70-130		%REC	1	3/20/2015 4:27:37 AM	R24920
Surr: Toluene-d8	88.0	70-130		%REC	1	3/20/2015 4:27:37 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: cadg
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/20/2015 4:27:37 AM	R24920
Surr: BFB	110	67.4-150		%REC	1	3/20/2015 4:27:37 AM	R24920

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503850  
25-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID	MB-18230	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	18230	RunNo:	24944					
Prep Date:	3/19/2015	Analysis Date:	3/19/2015	SeqNo:	735257	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-18230	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	18230	RunNo:	24944					
Prep Date:	3/19/2015	Analysis Date:	3/19/2015	SeqNo:	735258	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.5	90	110			

Sample ID	MB-18295	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	18295	RunNo:	25049					
Prep Date:	3/24/2015	Analysis Date:	3/24/2015	SeqNo:	739028	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-18295	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	18295	RunNo:	25049					
Prep Date:	3/24/2015	Analysis Date:	3/24/2015	SeqNo:	739029	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.9	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503850

25-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	<b>MB-18222</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18222</b>	RunNo:	<b>24912</b>					
Prep Date:	<b>3/19/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734184</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	11		10.00		110	63.5	128			

Sample ID	<b>LCS-18222</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18222</b>	RunNo:	<b>24912</b>					
Prep Date:	<b>3/19/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734185</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	67.8	130			
Surr: DNOP	4.9		5.000		98.5	63.5	128			

Sample ID	<b>MB-18200</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18200</b>	RunNo:	<b>24912</b>					
Prep Date:	<b>3/18/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734189</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		108	63.5	128			

Sample ID	<b>LCS-18200</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18200</b>	RunNo:	<b>24912</b>					
Prep Date:	<b>3/18/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734192</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		98.9	63.5	128			

Sample ID	<b>MB-18201</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18201</b>	RunNo:	<b>24912</b>					
Prep Date:	<b>3/18/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734292</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		124	63.5	128			

Sample ID	<b>LCS-18201</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18201</b>	RunNo:	<b>24912</b>					
Prep Date:	<b>3/18/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734682</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		99.7	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 Not In Range
- RL Reporting Detection Limit

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

WO#: 1503850  
 25-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID	1503850-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	SC-34 250-300' W B	Batch ID:	18222	RunNo:	24910					
Prep Date:	3/19/2015	Analysis Date:	3/20/2015	SeqNo:	735108	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.25	6.442	86.3	29.2	176			
Surr: DNOP	5.3		5.025		106	63.5	128			

Sample ID	1503850-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	SC-34 250-300' W B	Batch ID:	18222	RunNo:	24910					
Prep Date:	3/19/2015	Analysis Date:	3/20/2015	SeqNo:	735109	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.9	49.70	6.442	78.2	29.2	176	9.42	23	
Surr: DNOP	5.4		4.970		108	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 Not In Range
- RL Reporting Detection Limit

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

WO#: 1503850  
 25-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID: <b>5mL rb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>PBS</b>	Batch ID: <b>R24920</b>	RunNo: <b>24920</b>								
Prep Date:	Analysis Date: <b>3/19/2015</b>	SeqNo: <b>734835</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: 1,2-Dichloroethane-d4	0.47		0.5000		93.0	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		106	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		96.2	70	130			
Surr: Toluene-d8	0.50		0.5000		101	70	130			

Sample ID: <b>100ng lcs</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>R24920</b>	RunNo: <b>24920</b>								
Prep Date:	Analysis Date: <b>3/19/2015</b>	SeqNo: <b>734836</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	70	130			
Toluene	1.1	0.050	1.000	0	109	70	130			
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		97.6	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		98.0	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503850

25-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID: <b>5mL rb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>R24920</b>	RunNo: <b>24920</b>								
Prep Date:	Analysis Date: <b>3/19/2015</b>	SeqNo: <b>734871</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	490		500.0		97.6	67.4	150			

Sample ID: <b>2.5ug gro lcs</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>R24920</b>	RunNo: <b>24920</b>								
Prep Date:	Analysis Date: <b>3/19/2015</b>	SeqNo: <b>734872</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	79.9	135			
Surr: BFB	500		500.0		99.7	67.4	150			

**Qualifiers:**

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

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1503850

RcptNo: 1

Received by/date: AT 03/19/15

Logged By: Anne Thorne 3/19/2015 8:05:00 AM *Anne Thorne*

Completed By: Anne Thorne 3/19/2015 *Anne Thorne*

Reviewed By: *[Signature]* 03/19/15

**Chain of Custody**

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

**Log In**

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

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

**Special Handling (if applicable)**

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

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

17. Additional remarks:

**18. Cooler Information**

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

# Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W Broadway  
Farmington, NM 87401

Phone #: 505 325 7535

Email or Fax #: Steve.Moskal@soudemiller.com

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

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

EDD (Type)

Turn-Around Time:  
 Standard  Rush Next Day

Project Name:  
Lateral C-7

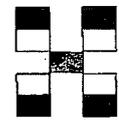
Project #:  
N 20609

Project Manager:  
Steve Moskal

Sampler:  
JS

On Ice:  Yes  No

Sample Temperature:  
1.0



## 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 (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)	300.0 Chlorides	Air Bubbles (Y or N)
5-18	1443	Soil	SC-34 200-300 W Bar ditch	1 4oz	—	-C01	X	X											
	1446		SC-35 200-250 W Bar ditch			-C02	X	X										X	
	1449		SC-36 150-200 W Bar ditch			-C03	X	X											
	1452		SC-37 100-150 West Bar Ditch			-C04	X	X											X
	1455		SC-38 50-100 West Bar ditch			-C05	X	X											
	1458		SC-39 0-50 West Bar ditch			-C06	X	X											X
	1501		SC-40 Background			-C07	X	X										No	X

Date: 5-18 Time: 1900 Relinquished by: [Signature]

Date: 8/15 Time: 2005 Relinquished by: [Signature]

Received by: [Signature] Date: 3/18/15 Time: 1900

Received by: [Signature] Date: 03/19/15 Time: 0805

Remarks: Invoice Enterprise  
Please copy  
Jesse.Sprague@soudemiller.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)

March 31, 2015

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

RE: Lateral C-7

OrderNo.: 1503B68

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/25/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
 Lab Order 1503B68  
 Date Reported: 3/31/2015

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-1 @ 1'

**Project:** Lateral C-7

**Collection Date:** 3/24/2015 9:30:00 AM

**Lab ID:** 1503B68-001

**Matrix:** SOIL

**Received Date:** 3/25/2015 7:55:00 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	3/27/2015 3:56:33 PM	18351
Surr: DNOP	105	63.5-128		%REC	1	3/27/2015 3:56:33 PM	18351
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/28/2015 11:09:23 AM	18355
Surr: BFB	89.9	80-120		%REC	1	3/28/2015 11:09:23 AM	18355
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.049		mg/Kg	1	3/28/2015 11:09:23 AM	18355
Toluene	ND	0.049		mg/Kg	1	3/28/2015 11:09:23 AM	18355
Ethylbenzene	ND	0.049		mg/Kg	1	3/28/2015 11:09:23 AM	18355
Xylenes, Total	ND	0.097		mg/Kg	1	3/28/2015 11:09:23 AM	18355
Surr: 4-Bromofluorobenzene	100	80-120		%REC	1	3/28/2015 11:09:23 AM	18355
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	39	30		mg/Kg	20	3/30/2015 3:05:50 PM	18413

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503B68

31-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	<b>MB-18413</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18413</b>	RunNo:	<b>25153</b>					
Prep Date:	<b>3/30/2015</b>	Analysis Date:	<b>3/30/2015</b>	SeqNo:	<b>744362</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	<b>LCS-18413</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18413</b>	RunNo:	<b>25153</b>					
Prep Date:	<b>3/30/2015</b>	Analysis Date:	<b>3/30/2015</b>	SeqNo:	<b>744363</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.9	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503B68

31-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID <b>MB-18351</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>18351</b>		RunNo: <b>25073</b>							
Prep Date: <b>3/26/2015</b>	Analysis Date: <b>3/27/2015</b>		SeqNo: <b>742950</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	9.7		10.00		97.5	63.5	128			

Sample ID <b>LCS-18351</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>18351</b>		RunNo: <b>25073</b>							
Prep Date: <b>3/26/2015</b>	Analysis Date: <b>3/27/2015</b>		SeqNo: <b>742951</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	95.2	67.8	130			
Surr: DNOP	4.9		5.000		97.7	63.5	128			

Sample ID <b>1503B68-001AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>SC-1 @ 1'</b>	Batch ID: <b>18351</b>		RunNo: <b>25073</b>							
Prep Date: <b>3/26/2015</b>	Analysis Date: <b>3/27/2015</b>		SeqNo: <b>742952</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	49.85	0	105	29.2	176			
Surr: DNOP	5.2		4.985		103	63.5	128			

Sample ID <b>1503B68-001AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>SC-1 @ 1'</b>	Batch ID: <b>18351</b>		RunNo: <b>25073</b>							
Prep Date: <b>3/26/2015</b>	Analysis Date: <b>3/27/2015</b>		SeqNo: <b>742953</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	50.20	0	99.9	29.2	176	4.54	23	
Surr: DNOP	5.2		5.020		104	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 Not In Range
- RL Reporting Detection Limit

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

WO#: 1503B68  
 31-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID <b>MB-18355</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>18355</b>		RunNo: <b>25124</b>							
Prep Date: <b>3/26/2015</b>	Analysis Date: <b>3/27/2015</b>		SeqNo: <b>742102</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	910		1000		91.2	80	120			

Sample ID <b>LCS-18355</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>18355</b>		RunNo: <b>25124</b>							
Prep Date: <b>3/26/2015</b>	Analysis Date: <b>3/27/2015</b>		SeqNo: <b>742103</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	97.5	64	130			
Surr: BFB	990		1000		99.2	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 Not In Range
- RL Reporting Detection Limit

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

WO#: 1503B68  
 31-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID	<b>MB-18355</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18355</b>	RunNo:	<b>25124</b>					
Prep Date:	<b>3/26/2015</b>	Analysis Date:	<b>3/27/2015</b>	SeqNo:	<b>742123</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		103	80	120			

Sample ID	<b>LCS-18355</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18355</b>	RunNo:	<b>25124</b>					
Prep Date:	<b>3/26/2015</b>	Analysis Date:	<b>3/27/2015</b>	SeqNo:	<b>742124</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	110	76.6	128			
Toluene	1.1	0.050	1.000	0	106	75	124			
Ethylbenzene	1.0	0.050	1.000	0	104	79.5	126			
Xylenes, Total	3.1	0.10	3.000	0	103	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

**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 Not In Range
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: SMA-FARM

Work Order Number: 1503B68

RcptNo: 1

Received by/date: *L-m* 03/25/15

Logged By: Ashley Gallegos 3/25/2015 7:55:00 AM *AG*

Completed By: Ashley Gallegos 3/25/2015 5:58:39 PM *AG*

Reviewed By: *ga* 03/24/15

**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  # of preserved bottles checked for pH: ( <2 or >12 unless noted )
- 13. Are matrices correctly identified on Chain of Custody? Yes  No  Adjusted?
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No  Checked by:

**Special Handling (if applicable)**

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

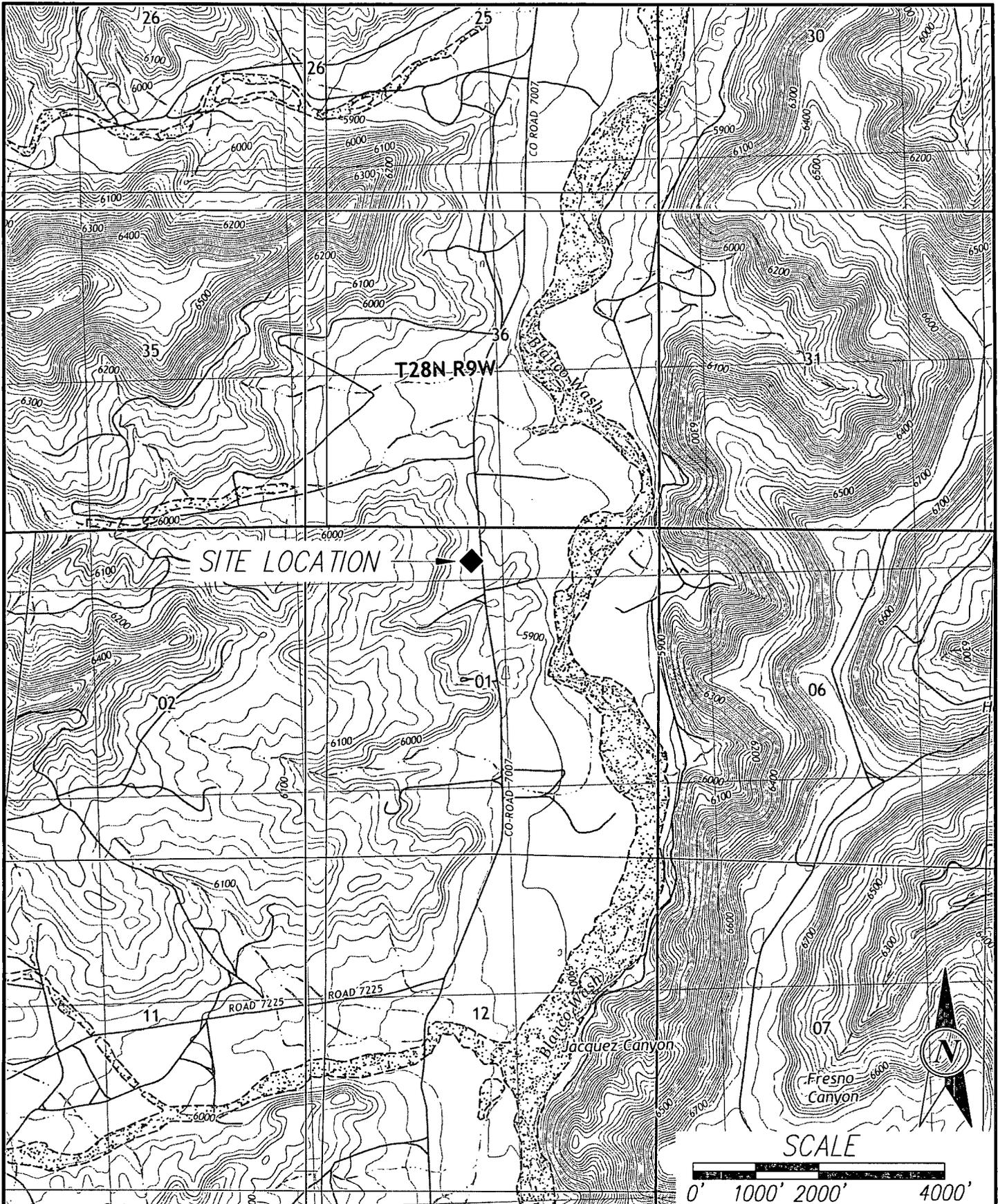
Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
 By Whom: \_\_\_\_\_ Via:  eMail  Phone  Fax  In Person  
 Regarding: \_\_\_\_\_  
 Client Instructions: \_\_\_\_\_

17. Additional remarks:

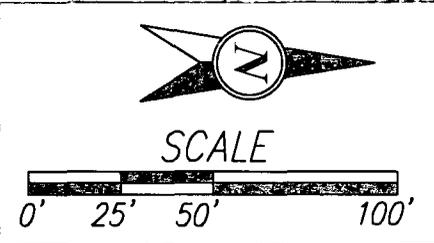
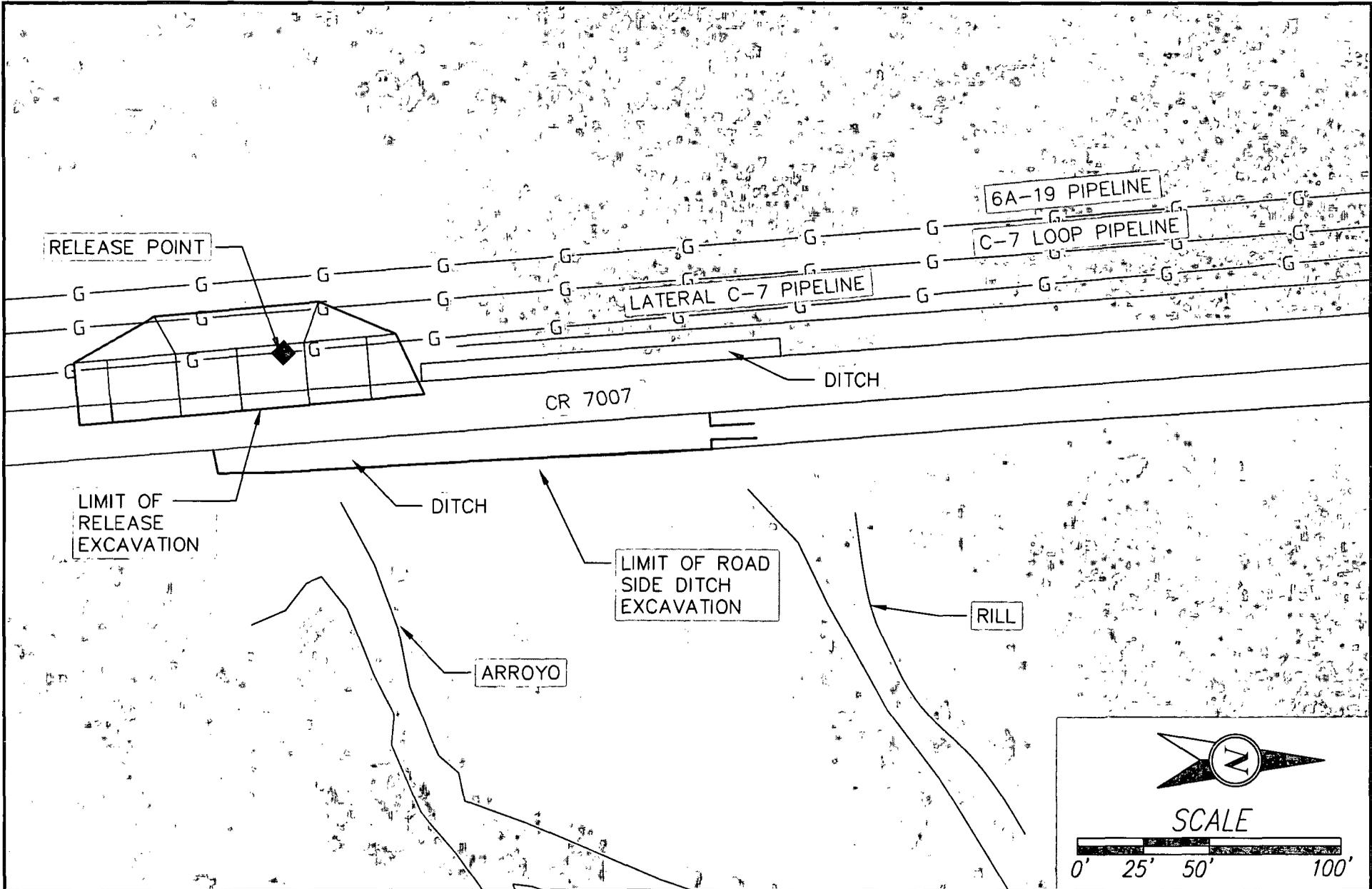
**Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Yes			





	<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, CO - Stafford, AZ - Moab, UT	ENTERPRISE FARMINGTON, NEW MEXICO	Designed SM	Drawn GJF	Checked RSA
	<b>VICINITY MAP</b> <b>LATERAL C-7</b> <b>SECTION 1, T27N, R9W</b> SAN JUAN COUNTY, NEW MEXICO			Date: APRIL 2015 Scale: Horiz: 1"=2000' Vert: N/A Project No: 5123699 Sheet: 1	



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ENTERPRISE

FARMINGTON, NEW MEXICO

Designed SM	Drawn DJB	Checked RSA
Date: APRIL 2015		
Scale: Horiz: 1"=50' Vert: N/A		
Project No: 5123699		
Sheet: 2		

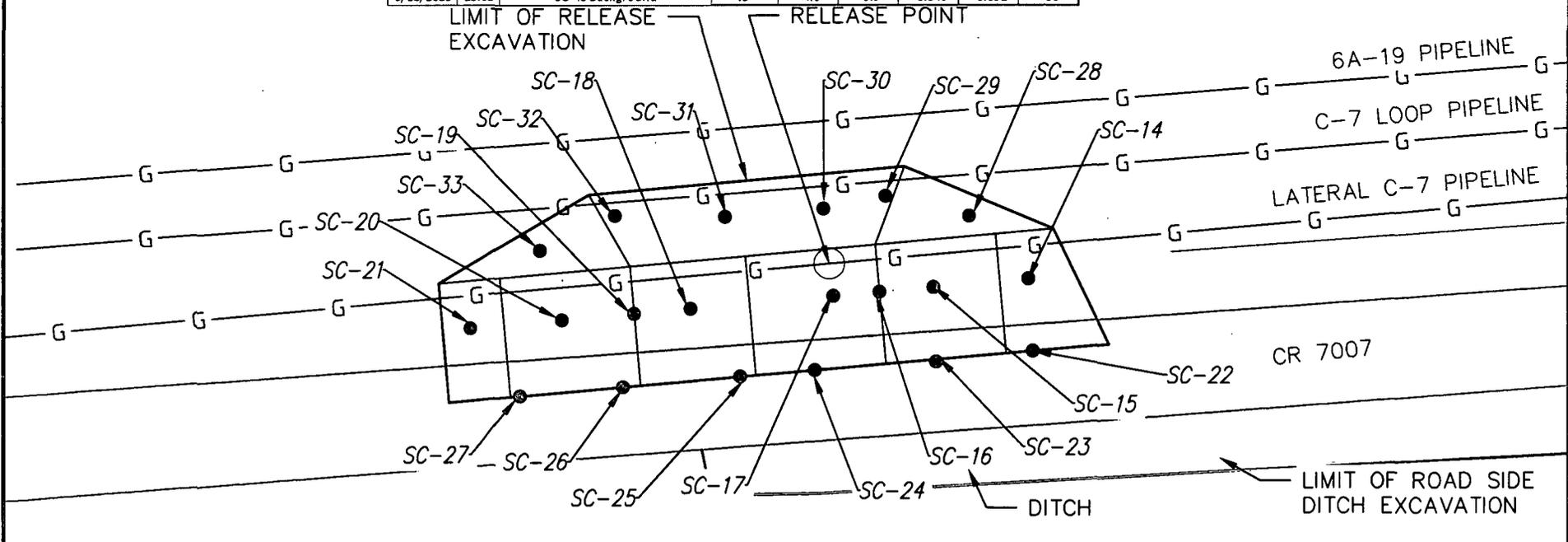
**SITE LOCATION MAP**  
**LATERAL C-7**  
**SECTION 1, T27N, R9W**

SAN JUAN COUNTY, NEW MEXICO

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, ISSUED AND DATED.

SC-40

Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX	Method 300.0 Chlorides
NMOCD Guidelines			NMOCD Site Ranking: 0		100 ppm	10 ppm	50 ppm	
3/18/2015	13:43	SC-14 N Wall	0-15'	<2.8	<9.8	<0.028	<0.056	<30
3/18/2015	13:46	SC-15 N Bench	15'	<2.9	<9.8	<0.029	<0.057	<30
3/18/2015	13:49	SC-16 N Wall Deep	15'-35'	<3.0	<10	<0.030	<0.061	<30
3/18/2015	13:52	SC-17 N Deep Base	35'	<3.3	<9.9	<0.033	<0.067	<30
3/18/2015	13:55	SC-18 S Deep Base	35'	<3.3	<9.8	<0.033	<0.066	<30
3/18/2015	13:58	SC-19 S Deep Wall	15-35'	<2.8	<10	<0.028	<0.056	<30
3/18/2015	14:01	SC-20 S Bench	15'	<3.2	<10	<0.032	<0.064	<30
3/18/2015	14:04	SC-21 S Wall	0'-15'	<3.1	<9.9	<0.031	<0.062	<30
3/18/2015	14:07	SC-22 NE Wall	0'-15'	<3.2	<9.9	<0.032	<0.064	<30
3/18/2015	14:10	SC-23 NE Wall 2	0'-15'	<3.36	<10	<0.036	<0.071	<30
3/18/2015	14:13	SC-24 E Wall Deep	0'-35'	<2.9	<9.9	<0.029	<0.058	<30
3/18/2015	14:16	SC-25 E Wall Deep South	0'-35'	<3.2	<10	<0.032	<0.065	<30
3/18/2015	14:19	SC-26 E Wall S	0'-15'	<3.5	<9.9	<0.035	<0.070	<30
3/18/2015	14:22	SC-27 E Wall S 2	0'-15'	<3.0	<10	<0.030	<0.06	<30
3/18/2015	14:25	SC-28 NW Wall	0'-15'	<3.4	<10	<0.034	<0.068	<30
3/18/2015	14:28	SC-29 NW Wall 2	0'-35'	<3.6	<9.8	<0.036	<0.072	<30
3/18/2015	14:31	SC-30 NW Wall 3	0'-35'	<4.5	<9.9	<0.045	<0.089	<30
3/18/2015	14:34	SC-31 SW Wall	0'-35'	<3.2	<9.9	<0.032	<0.065	<30
3/18/2015	14:37	SC-32 SW Wall 2	0'-35'	<4.6	<10	<0.046	<0.093	<30
3/18/2015	14:40	SC-33 SW Wall 3	0'-15'	<3.4	<10	<0.034	<0.067	<30
3/18/2015	15:01	SC-40 Background	.5'	<4.6	<9.9	<0.046	<0.091	<30



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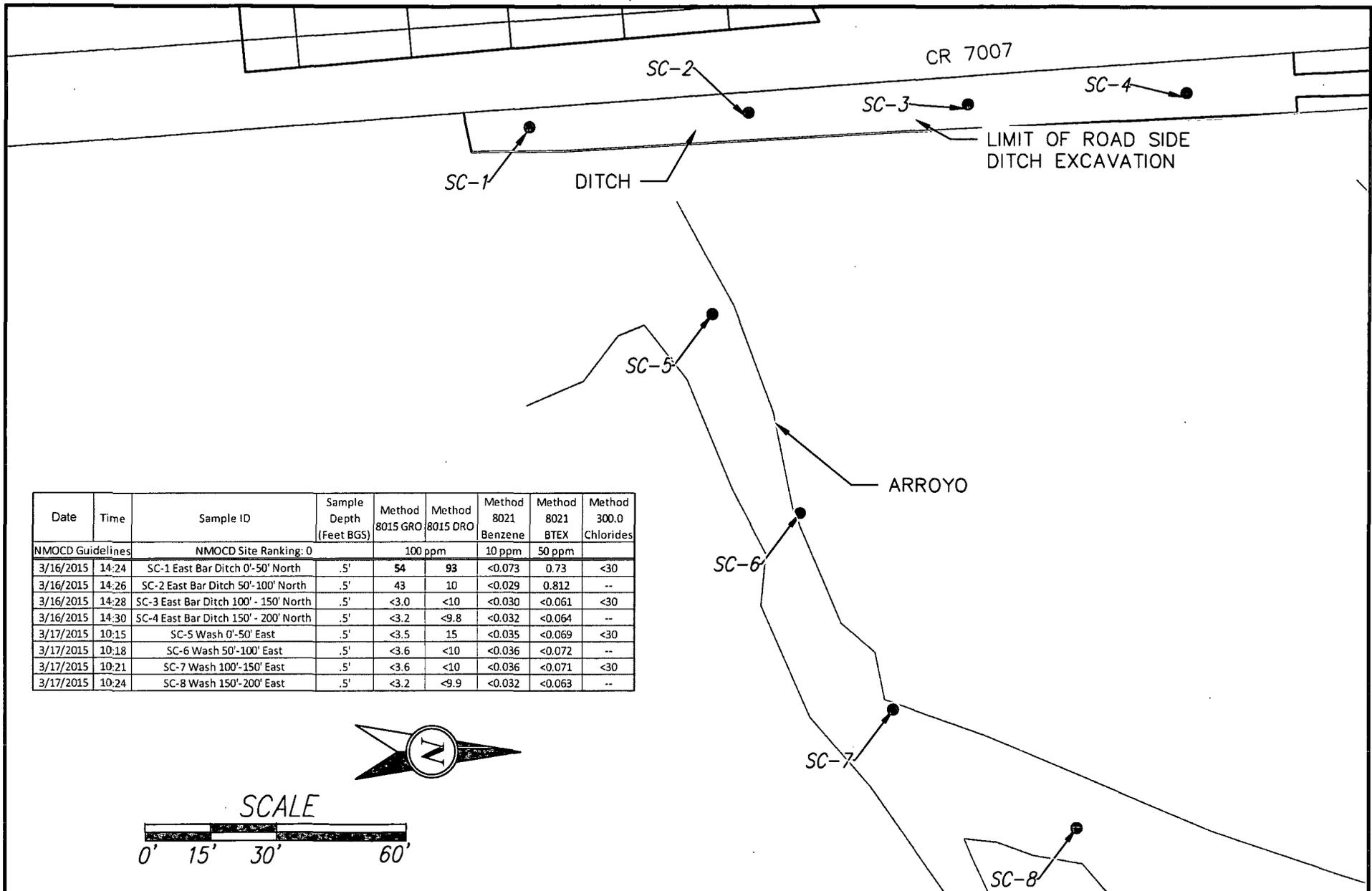
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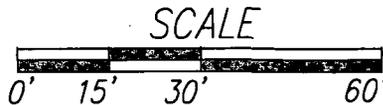
**SOIL CONTAMINANT CONCENTRATION**  
**LATERAL C-7**  
**SECTION 1, T27N, R9W**

SAN JUAN COUNTY, NEW MEXICO

Designed SM	Drawn DJB	Checked RSA
Date: APRIL 2015		
Scale: Horiz: 1"=30'		
Vert: N/A		
Project No: 5123699		
Sheet: 3		



Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX	Method 300.0 Chlorides
NMOCD Guidelines				NMOCD Site Ranking: 0				
				100 ppm	10 ppm	50 ppm		
3/16/2015	14:24	SC-1 East Bar Ditch 0'-50' North	.5'	54	93	<0.073	0.73	<30
3/16/2015	14:26	SC-2 East Bar Ditch 50'-100' North	.5'	43	10	<0.029	0.812	--
3/16/2015	14:28	SC-3 East Bar Ditch 100' - 150' North	.5'	<3.0	<10	<0.030	<0.061	<30
3/16/2015	14:30	SC-4 East Bar Ditch 150' - 200' North	.5'	<3.2	<9.8	<0.032	<0.064	--
3/17/2015	10:15	SC-5 Wash 0'-50' East	.5'	<3.5	15	<0.035	<0.069	<30
3/17/2015	10:18	SC-6 Wash 50'-100' East	.5'	<3.6	<10	<0.036	<0.072	--
3/17/2015	10:21	SC-7 Wash 100'-150' East	.5'	<3.6	<10	<0.036	<0.071	<30
3/17/2015	10:24	SC-8 Wash 150'-200' East	.5'	<3.2	<9.9	<0.032	<0.063	--



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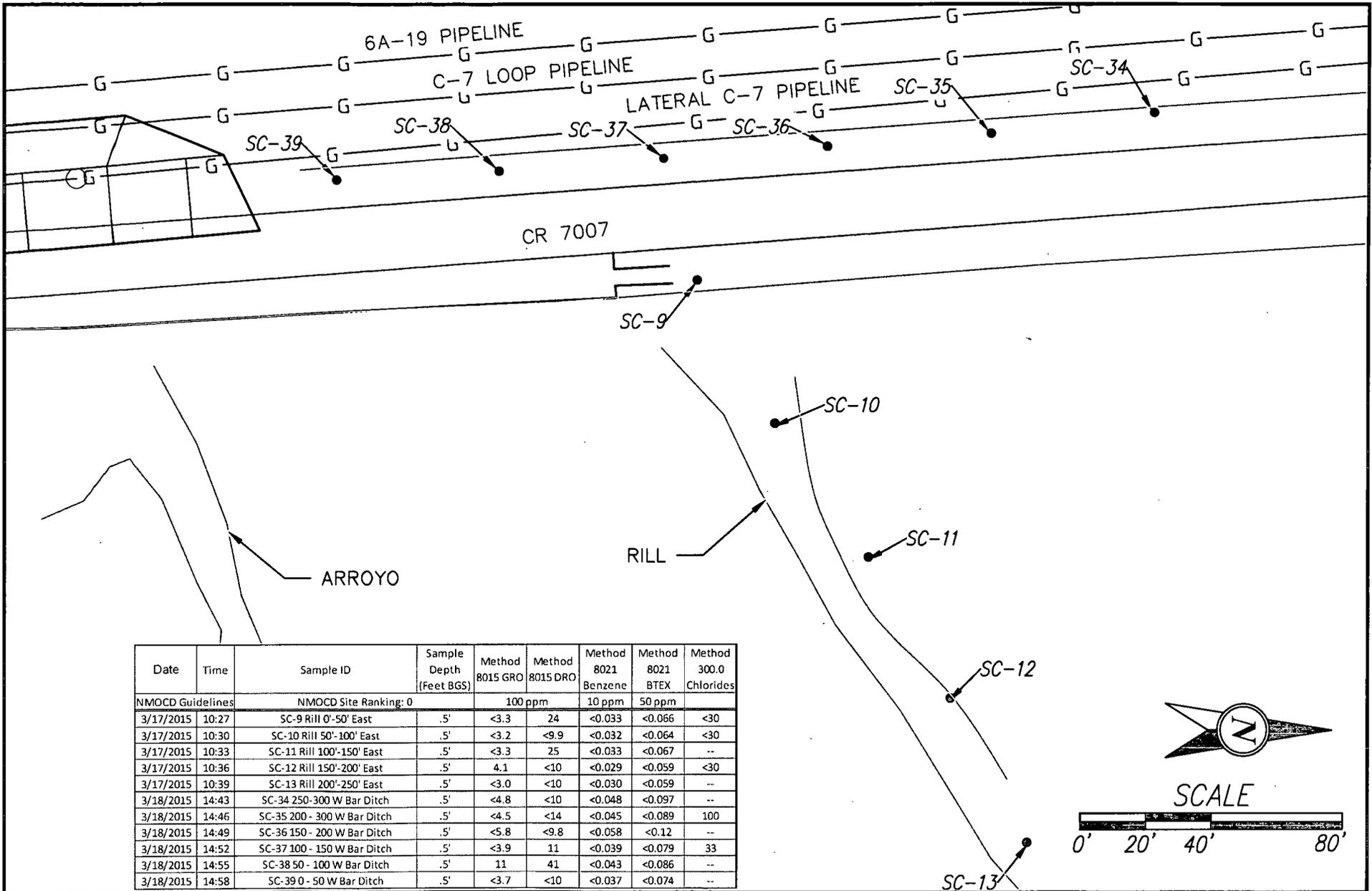
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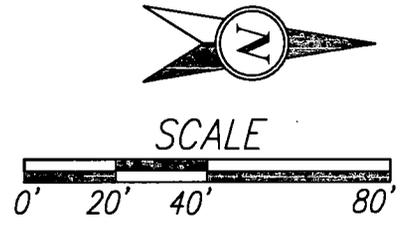
**SOIL CONTAMINANT CONCENTRATION  
 LATERAL C-7  
 SECTION 1, T27N, R9W**

Designed SM	Drawn DJB	Checked RSA
Date: APRIL 2015		
Scale: Horiz: 1"=30'		
Vert: N/A		
Project No: 5123699		
Sheet: 4		

SAN JUAN COUNTY, NEW MEXICO



Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX	Method 300.0 Chlorides
NMOCD Guidelines				NMOCD Site Ranking: 0		100 ppm	10 ppm	50 ppm
3/17/2015	10:27	SC-9 Rill 0'-50' East	.5'	<3.3	24	<0.033	<0.066	<30
3/17/2015	10:30	SC-10 Rill 50'-100' East	.5'	<3.2	<9.9	<0.032	<0.064	<30
3/17/2015	10:33	SC-11 Rill 100'-150' East	.5'	<3.3	25	<0.033	<0.067	--
3/17/2015	10:36	SC-12 Rill 150'-200' East	.5'	4.1	<10	<0.029	<0.059	<30
3/17/2015	10:39	SC-13 Rill 200'-250' East	.5'	<3.0	<10	<0.030	<0.059	--
3/18/2015	14:43	SC-34 250-300 W Bar Ditch	.5'	<4.8	<10	<0.048	<0.097	--
3/18/2015	14:46	SC-35 200 - 300 W Bar Ditch	.5'	<4.5	<14	<0.045	<0.089	100
3/18/2015	14:49	SC-36 150 - 200 W Bar Ditch	.5'	<5.8	<9.8	<0.058	<0.12	--
3/18/2015	14:52	SC-37 100 - 150 W Bar Ditch	.5'	<3.9	11	<0.039	<0.079	33
3/18/2015	14:55	SC-38 50 - 100 W Bar Ditch	.5'	11	41	<0.043	<0.086	--
3/18/2015	14:58	SC-39 0 - 50 W Bar Ditch	.5'	<3.7	<10	<0.037	<0.074	--



	<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 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	Designed SM Drawn DJB Checked RSA
	<b>SOIL CONTAMINANT CONCENTRATION</b> <b>LATERAL C-7</b> <b>SECTION 1, T27N, R9W</b>		
	SAN JUAN COUNTY, NEW MEXICO		
	Date: APRIL 2015 Scale: Horiz: 1"=40' Vert: N/A Project No: 5123699 Sheet: 5		

## **Tables**

Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20	20	Field verification that release is located within an unnamed wash.	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	20	Field verification that release is located within an unnamed wash.	Release is located within an unnamed tributary wash of Blanco Wash.
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	0	NM State Engineer Water Well Database	No recorded water wells located with 1000'; Ten wells 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>	<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>



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

Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX	Method 300.0 Chlorides
NMOCD Guidelines		NMOCD Site Ranking: 40		100 ppm		10 ppm	50 ppm	
3/16/2015	14:24	SC-1 East Bar Ditch 0'-50' North	.5'	54	93	<0.073	0.73	<30
3/24/2015	9:30	SC-1 East Bar Ditch 0'-50' North	1'	<4.9	<9.8	<0.049	<0.097	39
3/16/2015	14:26	SC-2 East Bar Ditch 50'-100' North	.5'	43	10	<0.029	0.812	--
3/16/2015	14:28	SC-3 East Bar Ditch 100' - 150' North	.5'	<3.0	<10	<0.030	<0.061	<30
3/16/2015	14:30	SC-4 East Bar Ditch 150' - 200' North	.5'	<3.2	<9.8	<0.032	<0.064	--
3/17/2015	10:15	SC-5 Wash 0'-50' East	.5'	<3.5	15	<0.035	<0.069	<30
3/17/2015	10:18	SC-6 Wash 50'-100' East	.5'	<3.6	<10	<0.036	<0.072	--
3/17/2015	10:21	SC-7 Wash 100'-150' East	.5'	<3.6	<10	<0.036	<0.071	<30
3/17/2015	10:24	SC-8 Wash 150'-200' East	.5'	<3.2	<9.9	<0.032	<0.063	--
3/17/2015	10:27	SC-9 Rill 0'-50' East	.5'	<3.3	24	<0.033	<0.066	<30
3/17/2015	10:30	SC-10 Rill 50'-100' East	.5'	<3.2	<9.9	<0.032	<0.064	<30
3/17/2015	10:33	SC-11 Rill 100'-150' East	.5'	<3.3	25	<0.033	<0.067	--
3/17/2015	10:36	SC-12 Rill 150'-200' East	.5'	4.1	<10	<0.029	<0.059	<30
3/17/2015	10:39	SC-13 Rill 200'-250' East	.5'	<3.0	<10	<0.030	<0.059	--
3/18/2015	13:43	SC-14 N Wall	0'-15'	<2.8	<9.8	<0.028	<0.056	<30
3/18/2015	13:46	SC-15 N Bench	15'	<2.9	<9.8	<0.029	<0.057	<30
3/18/2015	13:49	SC-16 N Wall Deep	15'-35'	<3.0	<10	<0.030	<0.061	<30
3/18/2015	13:52	SC-17 N Deep Base	35'	<3.3	<9.9	<0.033	<0.067	<30
3/18/2015	13:55	SC-18 S Deep Base	35'	<3.3	<9.8	<0.033	<0.066	<30
3/18/2015	13:58	SC-19 S Deep Wall	15'-35'	<2.8	<10	<0.028	<0.056	<30
3/18/2015	14:01	SC-20 S Bench	15'	<3.2	<10	<0.032	<0.064	<30
3/18/2015	14:04	SC-21 S Wall	0'-15'	<3.1	<9.9	<0.031	<0.062	<30
3/18/2015	14:07	SC-22 NE Wall	0'-15'	<3.2	<9.9	<0.032	<0.064	<30
3/18/2015	14:10	SC-23 NE Wall 2	0'-15'	<3.36	<10	<0.036	<0.071	<30
3/18/2015	14:13	SC-24 E Wall Deep	0'-35'	<2.9	<9.9	<0.029	<0.058	<30
3/18/2015	14:16	SC-25 E Wall Deep South	0'-35'	<3.2	<10	<0.032	<0.065	<30
3/18/2015	14:19	SC-26 E Wall S	0'-15'	<3.5	<9.9	<0.035	<0.070	<30
3/18/2015	14:22	SC-27 E Wall S 2	0'-15'	<3.0	<10	<0.030	<0.06	<30
3/18/2015	14:25	SC-28 NW Wall	0'-15'	<3.4	<10	<0.034	<0.068	<30
3/18/2015	14:28	SC-29 NW Wall 2	0'-35'	<3.6	<9.8	<0.036	<0.072	<30
3/18/2015	14:31	SC-30 NW Wall 3	0'-35'	<4.5	<9.9	<0.045	<0.089	<30
3/18/2015	14:34	SC-31 SW Wall	0'-35'	<3.2	<9.9	<0.032	<0.065	<30
3/18/2015	14:37	SC-32 SW Wall 2	0'-35'	<4.6	<10	<0.046	<0.093	<30
3/18/2015	14:40	SC-33 SW Wall 3	0'-15'	<3.4	<10	<0.034	<0.067	<30



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

Lateral C-7  
 Pipeline Release  
 4/9/2015

Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX	Method 300.0 Chlorides
NMOCD Guidelines		NMOCD Site Ranking: 40		100 ppm		10 ppm	50 ppm	
3/18/2015	14:43	SC-34 250-300 W Bar Ditch	.5'	<4.8	<10	<0.048	<0.097	--
3/18/2015	14:46	SC-35 200 - 300 W Bar Ditch	.5'	<4.5	<14	<0.045	<0.089	100
3/18/2015	14:49	SC-36 150 - 200 W Bar Ditch	.5'	<5.8	<9.8	<0.058	<0.12	--
3/18/2015	14:52	SC-37 100 - 150 W Bar Ditch	.5'	<3.9	11	<0.039	<0.079	33
3/18/2015	14:55	SC-38 50 - 100 W Bar Ditch	.5'	11	41	<0.043	<0.086	--
3/18/2015	14:58	SC-39 0 - 50 W Bar Ditch	.5'	<3.7	<10	<0.037	<0.074	--
3/18/2015	15:01	SC-40 Background	.5'	<4.6	<9.9	<0.046	<0.091	<30



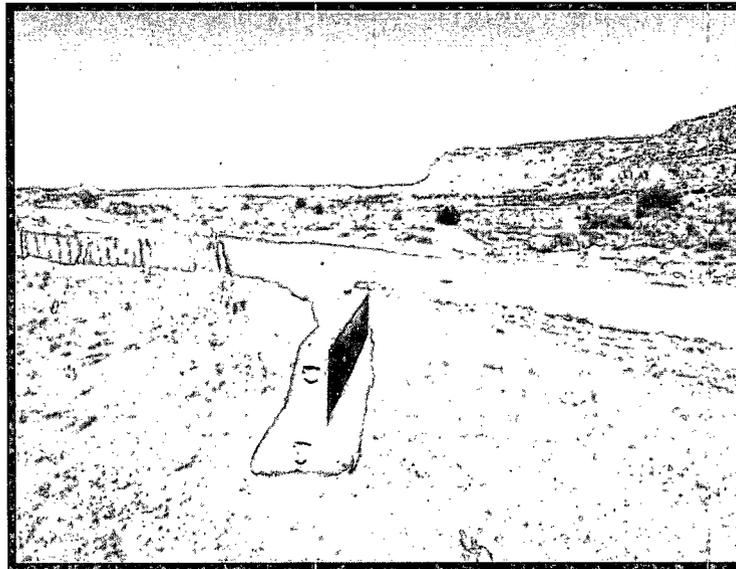
**Appendix A**  
**Site Photography**

## Site Photographs

### Enterprise Products Lateral C-7 Pipeline

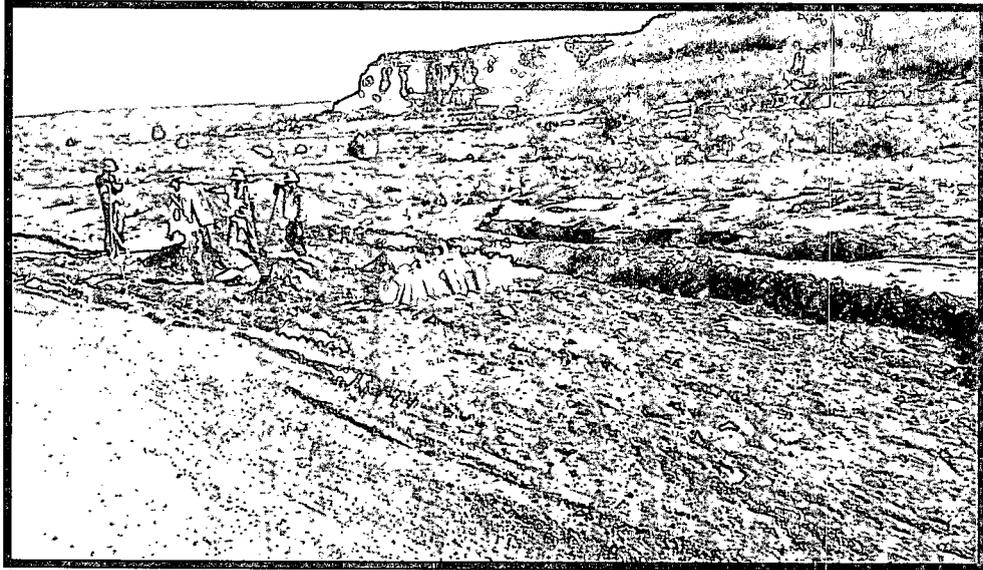


**Photo 1:** The liquids released from the Lateral C-7 eroded a large hole above the release location. Pictured is the release after residual liquids were removed.



**Photo 2:** Surface impact from pipeline liquids as they traveled across ground surface in the vicinity of the release.

**Site Photographs**  
**Enterprise Products Lateral C-7 Pipeline**

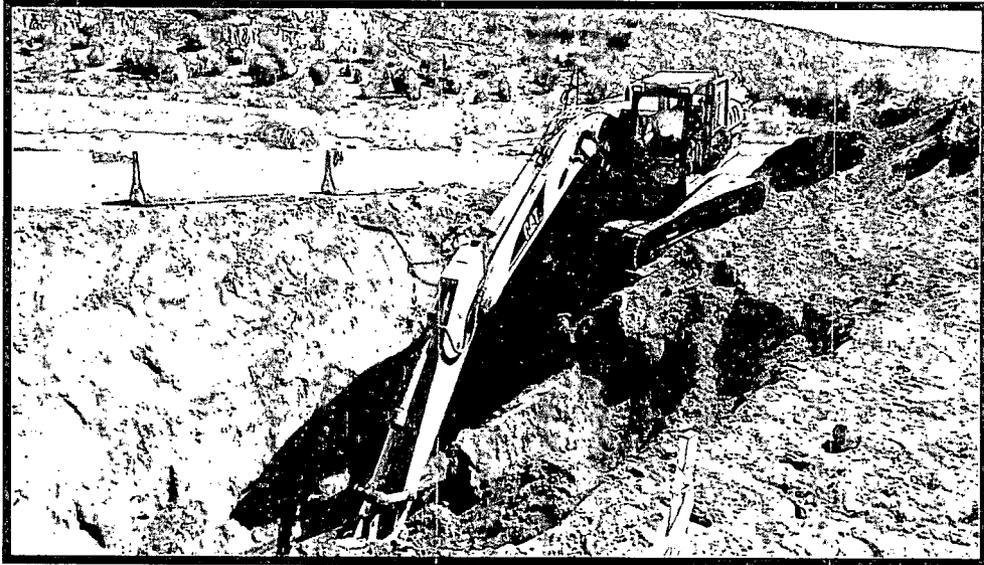


**Photo 3:** Manual excavation of surface impacts in the east bar ditch and wash by Halo Services Inc. contractors.

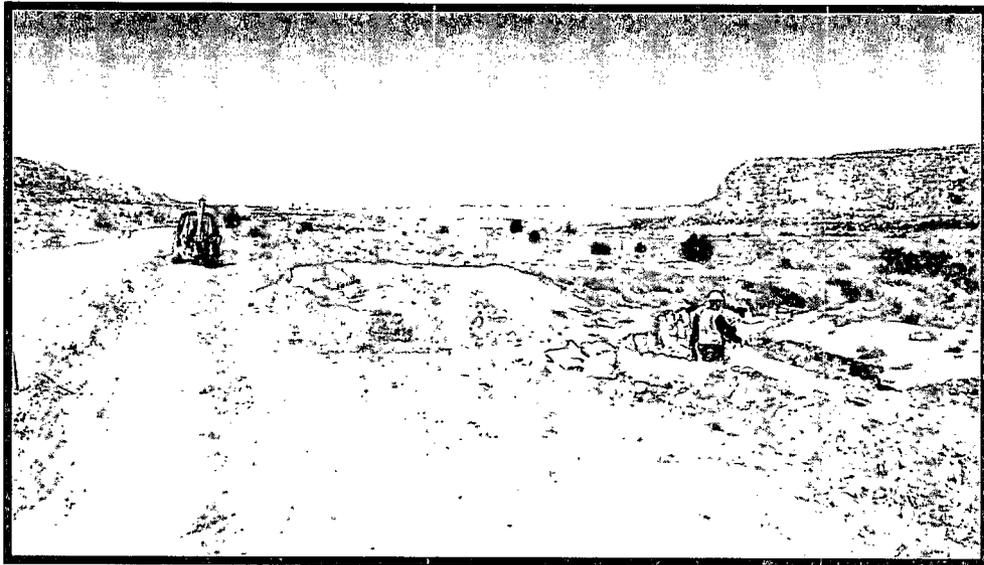


**Photo 4:** Visible surface impact, the location pictured is where the east bar ditch impact enters the rill and runs east. One point in a sample composite is visible.

**Site Photographs**  
**Enterprise Products Lateral C-7 Pipeline**

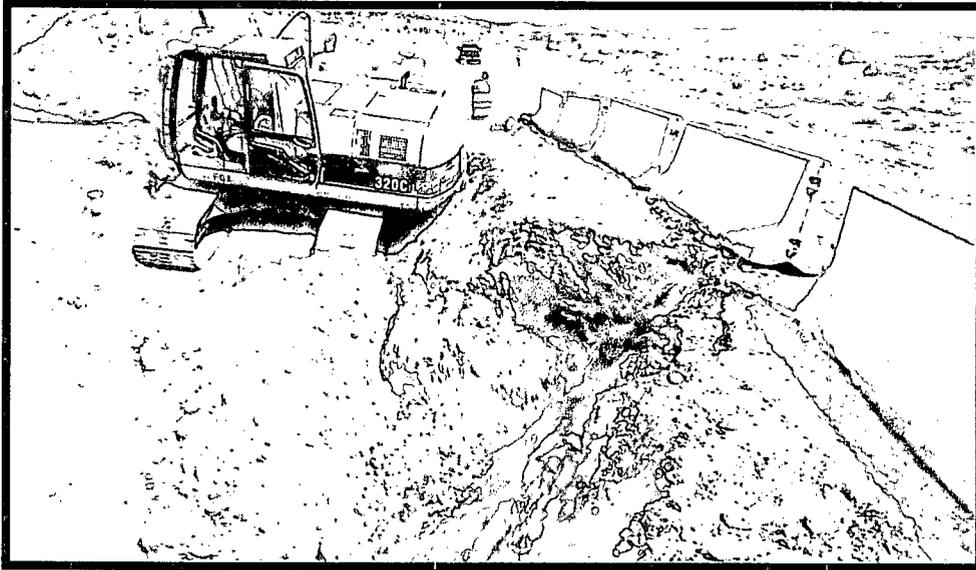


**Photo 5:** Initial excavation exposes impacted soils near the release. The depth of the pipeline necessitated a large excavation.

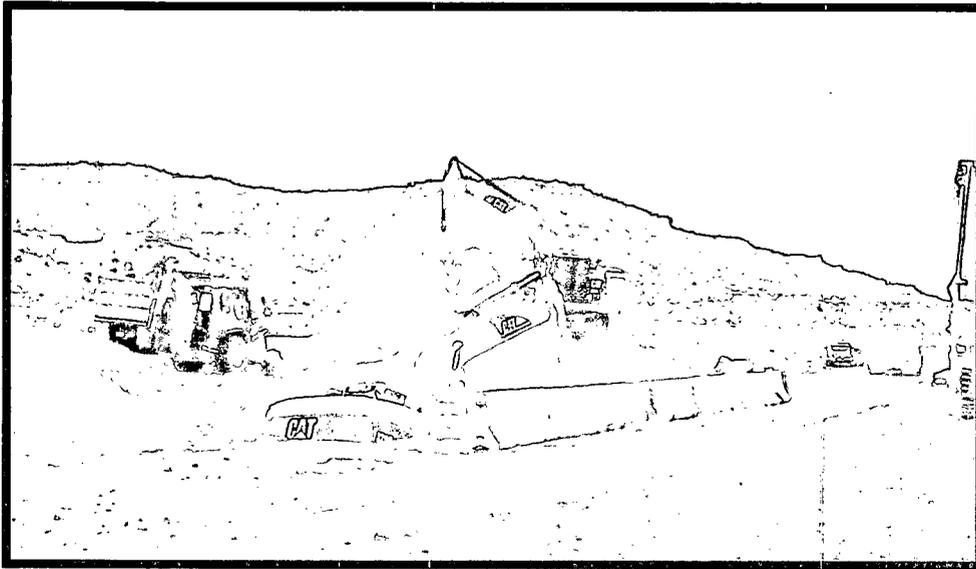


**Photo 6:** A rubber tire backhoe was used to remove the impact within the bar ditch. Also visible is the removal of surface impacts within the wash. View is to north.

## Site Photographs Enterprise Products Lateral C-7 Pipeline

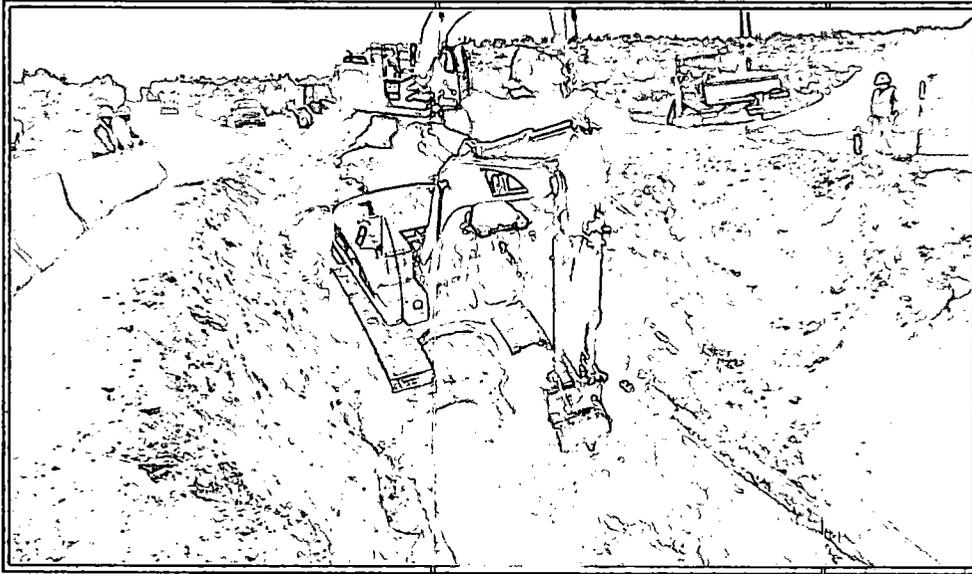


**Photo 7:** Contamination extended into the road base but was able to be removed by creating a shoofly to divert traffic to the east. Concrete barriers and barrels were used for safety.

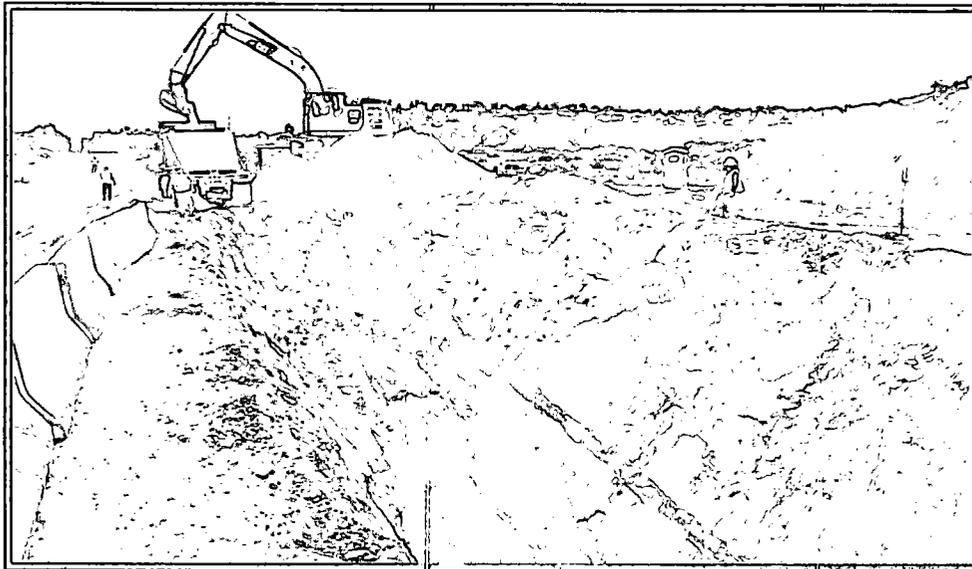


**Photo 8:** A second track mounted hoe was used to keep up with soil excavation and removal.

**Site Photographs**  
**Enterprise Products Lateral C-7 Pipeline**



**Photo 9:** Heavily stained soils were encountered in the east end of the excavation however contamination was not detected in laboratory samples.



**Photo 10:** Final excavation extents measured over 130 feet long with depths to 35 feet below grade.

**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 97057-0693  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-138  
Revised 08/01/11

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

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

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

2. **Originating Site:**  
Lateral C-7 Pipeline Release March 2015

3. **Location of Material (Street Address, City, State or ULSTR):**  
Unit C Sec 1 T 27 N R 9 W, San Juan County, NM; 36.610106, -107.740523

4. **Source and Description of Waste:**  
Source: Natural Gas Gathering Line  
Description: Hydrocarbon impacted soil/sludge/water released from a gathering line  
Estimated Volume 80 yd<sup>3</sup> (bbls) Known Volume (to be entered by the operator at the end of the haul) 1798/315 yd<sup>3</sup> / bbls

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

I, Thomas Long <sup>Thomas Long</sup>, 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 <sup>Thomas Long</sup> 3-3-15, representative for Enterprise Products Operating authorize 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 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: To Be Determined** Envirotech, Halo, BET, Contant, HBL, Flying M, Del Prado, 3E Energy, Lohato, Esparza, B+B Excavation, Rockies

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 TITLE: Waste Coordinator DATE: 3/3/15  
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 97057-0693  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-138  
Revised 08/01/11

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

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: Lateral C-7 Pipeline Release <p style="text-align: right;">April 2015</p>
3. Location of Material (Street Address, City, State or ULSTR): Unit C Sec 1 T 27 N R 9 W, San Juan County, NM; 36.610106, -107.740523
4. Source and Description of Waste: Source: Natural Gas Gathering Line Description: Hydrocarbon impacted soil/sludge/water released from a gathering line Estimated Volume <u>80</u> yd <sup>3</sup> (bbls) Known Volume (to be entered by the operator at the end of the haul) <u>72</u> 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 <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. <b>Operator Use Only: Waste Acceptance Frequency</b> <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> 3-3-15, representative for Enterprise Products Operating authorize to complete <b>Generator Signature</b> the required testing/sign the Generator Waste Testing Certification.  I, <i>Kendra Running</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: To Be Determined, <u>Envirotech, Riehl Trucking</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 Running  
SIGNATURE: *Kendra Running*  
Surface Waste Management Facility Authorized Agent

TITLE: waste Coordinator  
TELEPHONE NO.: 505-632-0615

DATE: 4/1/15

**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)

March 18, 2015

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

RE: Lateral C-7

OrderNo.: 1503672

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 4 sample(s) on 3/17/2015 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 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

**Project:** Lateral C-7

**Collection Date:** 3/16/2015 2:24:00 PM

**Lab ID:** 1503672-001

**Matrix:** MEOH (SOIL)

**Received Date:** 3/17/2015 7:10:00 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)	93	10		mg/Kg	1	3/17/2015 1:03:40 PM	18172
Surr: DNOP	117	63.5-128		%REC	1	3/17/2015 1:03:40 PM	18172
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	54	15		mg/Kg	5	3/17/2015 9:07:38 AM	18158
Surr: BFB	167	80-120	S	%REC	5	3/17/2015 9:07:38 AM	18158
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.073		mg/Kg	5	3/17/2015 9:07:38 AM	18158
Toluene	ND	0.15		mg/Kg	5	3/17/2015 9:07:38 AM	18158
Ethylbenzene	ND	0.15		mg/Kg	5	3/17/2015 9:07:38 AM	18158
Xylenes, Total	0.73	0.29		mg/Kg	5	3/17/2015 9:07:38 AM	18158
Surr: 4-Bromofluorobenzene	116	80-120		%REC	5	3/17/2015 9:07:38 AM	18158
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/17/2015 9:24:05 AM	18176

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 8
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-2

**Project:** Lateral C-7

**Collection Date:** 3/16/2015 2:26:00 PM

**Lab ID:** 1503672-002

**Matrix:** MEOH (SOIL)

**Received Date:** 3/17/2015 7:10:00 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)	10	9.9		mg/Kg	1	3/17/2015 1:25:14 PM	18172
Surr: DNOP	112	63.5-128		%REC	1	3/17/2015 1:25:14 PM	18172
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	43	2.9		mg/Kg	1	3/17/2015 9:36:22 AM	18158
Surr: BFB	329	80-120	S	%REC	1	3/17/2015 9:36:22 AM	18158
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.029		mg/Kg	1	3/17/2015 9:36:22 AM	18158
Toluene	0.072	0.029		mg/Kg	1	3/17/2015 9:36:22 AM	18158
Ethylbenzene	0.11	0.029		mg/Kg	1	3/17/2015 9:36:22 AM	18158
Xylenes, Total	0.63	0.058		mg/Kg	1	3/17/2015 9:36:22 AM	18158
Surr: 4-Bromofluorobenzene	132	80-120	S	%REC	1	3/17/2015 9:36:22 AM	18158

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-3

Project: Lateral C-7

Collection Date: 3/16/2015 2:28:00 PM

Lab ID: 1503672-003

Matrix: MEOH (SOIL)

Received Date: 3/17/2015 7:10:00 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	3/17/2015 1:46:58 PM	18172
Surr: DNOP	106	63.5-128		%REC	1	3/17/2015 1:46:58 PM	18172
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	3/17/2015 10:05:07 AM	18158
Surr: BFB	98.9	80-120		%REC	1	3/17/2015 10:05:07 AM	18158
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.030		mg/Kg	1	3/17/2015 10:05:07 AM	18158
Toluene	ND	0.030		mg/Kg	1	3/17/2015 10:05:07 AM	18158
Ethylbenzene	ND	0.030		mg/Kg	1	3/17/2015 10:05:07 AM	18158
Xylenes, Total	ND	0.061		mg/Kg	1	3/17/2015 10:05:07 AM	18158
Surr: 4-Bromofluorobenzene	112	80-120		%REC	1	3/17/2015 10:05:07 AM	18158
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/17/2015 9:36:29 AM	18176

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
 Lab Order 1503672  
 Date Reported: 3/18/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-4

Project: Lateral C-7

Collection Date: 3/16/2015 2:30:00 PM

Lab ID: 1503672-004

Matrix: MEOH (SOIL)

Received Date: 3/17/2015 7:10:00 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	3/17/2015 2:08:32 PM	18172
Surr: DNOP	110	63.5-128		%REC	1	3/17/2015 2:08:32 PM	18172
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	3/17/2015 10:33:48 AM	18158
Surr: BFB	104	80-120		%REC	1	3/17/2015 10:33:48 AM	18158
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	3/17/2015 10:33:48 AM	18158
Toluene	ND	0.032		mg/Kg	1	3/17/2015 10:33:48 AM	18158
Ethylbenzene	ND	0.032		mg/Kg	1	3/17/2015 10:33:48 AM	18158
Xylenes, Total	ND	0.064		mg/Kg	1	3/17/2015 10:33:48 AM	18158
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	3/17/2015 10:33:48 AM	18158

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

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

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

WO#: 1503672  
 18-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID	<b>MB-18176</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18176</b>	RunNo:	<b>24873</b>					
Prep Date:	<b>3/17/2015</b>	Analysis Date:	<b>3/17/2015</b>	SeqNo:	<b>732771</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	<b>LCS-18176</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18176</b>	RunNo:	<b>24873</b>					
Prep Date:	<b>3/17/2015</b>	Analysis Date:	<b>3/17/2015</b>	SeqNo:	<b>732772</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.2	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503672

18-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID <b>MB-18172</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>18172</b>		RunNo: <b>24861</b>							
Prep Date: <b>3/17/2015</b>	Analysis Date: <b>3/17/2015</b>		SeqNo: <b>732781</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	11		10.00		113	63.5	128			

Sample ID <b>LCS-18172</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>18172</b>		RunNo: <b>24861</b>							
Prep Date: <b>3/17/2015</b>	Analysis Date: <b>3/17/2015</b>		SeqNo: <b>732873</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	93.8	67.8	130			
Surr: DNOP	4.9		5.000		97.4	63.5	128			

Sample ID <b>1503672-001AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>SC-1</b>	Batch ID: <b>18172</b>		RunNo: <b>24861</b>							
Prep Date: <b>3/17/2015</b>	Analysis Date: <b>3/17/2015</b>		SeqNo: <b>733111</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	190	10	49.80	92.72	191	29.2	176			S
Surr: DNOP	5.6		4.980		112	63.5	128			

Sample ID <b>1503672-001AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>SC-1</b>	Batch ID: <b>18172</b>		RunNo: <b>24861</b>							
Prep Date: <b>3/17/2015</b>	Analysis Date: <b>3/17/2015</b>		SeqNo: <b>733126</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	240	10	50.35	92.72	286	29.2	176	22.9	23	S
Surr: DNOP	5.9		5.035		117	63.5	128	0	0	

Sample ID <b>MB-18142</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>18142</b>		RunNo: <b>24861</b>							
Prep Date: <b>3/16/2015</b>	Analysis Date: <b>3/17/2015</b>		SeqNo: <b>733137</b>		Units: <b>%REC</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		108	63.5	128			

Sample ID <b>LCS-18142</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>18142</b>		RunNo: <b>24861</b>							
Prep Date: <b>3/16/2015</b>	Analysis Date: <b>3/17/2015</b>		SeqNo: <b>733142</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		89.4	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 Not In Range
- RL Reporting Detection Limit

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

WO#: 1503672  
 18-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID <b>MB-18158</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>18158</b>		RunNo: <b>24877</b>							
Prep Date: <b>3/16/2015</b>	Analysis Date: <b>3/17/2015</b>		SeqNo: <b>733166</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	920		1000		92.4	80	120			

Sample ID <b>LCS-18158</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>18158</b>		RunNo: <b>24877</b>							
Prep Date: <b>3/16/2015</b>	Analysis Date: <b>3/17/2015</b>		SeqNo: <b>733167</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	64	130			
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 Not In Range
- RL Reporting Detection Limit

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

WO#: 1503672  
 18-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID <b>MB-18158</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>18158</b>		RunNo: <b>24877</b>							
Prep Date: <b>3/16/2015</b>	Analysis Date: <b>3/17/2015</b>		SeqNo: <b>733197</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-18158</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>18158</b>		RunNo: <b>24877</b>							
Prep Date: <b>3/16/2015</b>	Analysis Date: <b>3/17/2015</b>		SeqNo: <b>733198</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.050	1.000	0	116	76.6	128			
Toluene	1.1	0.050	1.000	0	110	75	124			
Ethylbenzene	1.1	0.050	1.000	0	112	79.5	126			
Xylenes, Total	3.3	0.10	3.000	0	111	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		115	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 Not In Range
- RL Reporting Detection Limit



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

# Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1503672

RcptNo: 1

Received by/date:

*[Signature]*

03/17/15

Logged By: Lindsay Mangin

3/17/2015 7:10:00 AM

*[Signature]*

Completed By: Lindsay Mangin

3/17/2015 7:22:34 AM

*[Signature]*

Reviewed By:

AS 03/17/15

**Chain of Custody**

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

**Log In**

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

# of preserved bottles checked for pH: \_\_\_\_\_

( <2 or >12 unless noted )

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

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

**Special Handling (if applicable)**

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

Person Notified:	<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	3.0	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@SoudrMiller.com

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

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

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

Turn-Around Time:

Standard  Rush Same Day

Project Name: Lateral C-7

Project #: N20609

Project Manager: Steve Moskal

Sampler: Jesse Sprague

On Ice:  Yes  No

Sample Temperature: 5.0



## 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 + MIBK (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)	300.0 Chlorides	Air Bubbles (Y or N)
X	X	X									X	
X	X	X										
X	X	X									X	
X	X	X										

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
6-15	1924	Soil	SC-1	1402 Meq/L	Meq/L	1503472 -001
	1926	"	SC-2	↓	↓	-002
	1928	"	SC-3	↓	↓	-003
	1930	"	SC-4	↓	↓	-004

Date: 6/15 Time: 1742 Relinquished by: [Signature]

Date: 6/15 Time: 1825 Relinquished by: [Signature]

Received by: Christine Walters Date: 3/16/15 Time: 1742

Received by: [Signature] Date: 03/17/15 Time: 0710

Remarks: F Invoice Enterprise  
COPY Jesse.Sprague@soudriller.com

Services 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)

March 19, 2015

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

RE: Lateral C-7

OrderNo.: 1503746

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 9 sample(s) on 3/18/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-5

**Project:** Lateral C-7

**Collection Date:** 3/17/2015 10:15:00 AM

**Lab ID:** 1503746-001

**Matrix:** MEOH (SOIL)

**Received Date:** 3/18/2015 7:10:00 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)	15	10		mg/Kg	1	3/18/2015 1:12:03 PM	18173
Surr: DNOP	106	63.5-128		%REC	1	3/18/2015 1:12:03 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							
Analyst: <b>NSB</b>							
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	3/18/2015 11:23:40 AM	18167
Surr: BFB	91.4	80-120		%REC	1	3/18/2015 11:23:40 AM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							
Analyst: <b>NSB</b>							
Benzene	ND	0.035		mg/Kg	1	3/18/2015 11:23:40 AM	18167
Toluene	ND	0.035		mg/Kg	1	3/18/2015 11:23:40 AM	18167
Ethylbenzene	ND	0.035		mg/Kg	1	3/18/2015 11:23:40 AM	18167
Xylenes, Total	ND	0.069		mg/Kg	1	3/18/2015 11:23:40 AM	18167
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	3/18/2015 11:23:40 AM	18167
<b>EPA METHOD 300.0: ANIONS</b>							
Analyst: <b>LGT</b>							
Chloride	ND	30		mg/Kg	20	3/18/2015 10:29:03 AM	18203

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 1 of 13
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
 Lab Order 1503746  
 Date Reported: 3/19/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-6

Project: Lateral C-7

Collection Date: 3/17/2015 10:18:00 AM

Lab ID: 1503746-002

Matrix: MEOH (SOIL)

Received Date: 3/18/2015 7:10:00 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	3/18/2015 1:33:44 PM	18173
Surr: DNOP	106	63.5-128		%REC	1	3/18/2015 1:33:44 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	3/18/2015 11:52:24 AM	18167
Surr: BFB	90.4	80-120		%REC	1	3/18/2015 11:52:24 AM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.036		mg/Kg	1	3/18/2015 11:52:24 AM	18167
Toluene	ND	0.036		mg/Kg	1	3/18/2015 11:52:24 AM	18167
Ethylbenzene	ND	0.036		mg/Kg	1	3/18/2015 11:52:24 AM	18167
Xylenes, Total	ND	0.072		mg/Kg	1	3/18/2015 11:52:24 AM	18167
Surr: 4-Bromofluorobenzene	104	80-120		%REC	1	3/18/2015 11:52:24 AM	18167

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

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

Analytical Report

Lab Order 1503746

Date Reported: 3/19/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-7

Project: Lateral C-7

Collection Date: 3/17/2015 10:21:00 AM

Lab ID: 1503746-003

Matrix: MEOH (SOIL)

Received Date: 3/18/2015 7:10:00 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	3/18/2015 1:55:25 PM	18173
Surr: DNOP	104	63.5-128		%REC	1	3/18/2015 1:55:25 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	3/18/2015 12:21:12 PM	18167
Surr: BFB	.92.8	80-120		%REC	1	3/18/2015 12:21:12 PM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.036		mg/Kg	1	3/18/2015 12:21:12 PM	18167
Toluene	ND	0.036		mg/Kg	1	3/18/2015 12:21:12 PM	18167
Ethylbenzene	ND	0.036		mg/Kg	1	3/18/2015 12:21:12 PM	18167
Xylenes, Total	ND	0.071		mg/Kg	1	3/18/2015 12:21:12 PM	18167
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	3/18/2015 12:21:12 PM	18167
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	ND	30		mg/Kg	20	3/18/2015 10:41:27 AM	18203

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

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

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Analytical Report

Lab Order 1503746

Date Reported: 3/19/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-8

Project: Lateral C-7

Collection Date: 3/17/2015 10:24:00 AM

Lab ID: 1503746-004

Matrix: MEOH (SOIL)

Received Date: 3/18/2015 7:10:00 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	3/18/2015 2:17:18 PM	18173
Surr: DNOP	109	63.5-128		%REC	1	3/18/2015 2:17:18 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	3/18/2015 12:49:55 PM	18167
Surr: BFB	126	80-120	S	%REC	1	3/18/2015 12:49:55 PM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	3/18/2015 12:49:55 PM	18167
Toluene	ND	0.032		mg/Kg	1	3/18/2015 12:49:55 PM	18167
Ethylbenzene	ND	0.032		mg/Kg	1	3/18/2015 12:49:55 PM	18167
Xylenes, Total	ND	0.063		mg/Kg	1	3/18/2015 12:49:55 PM	18167
Surr: 4-Bromofluorobenzene	118	80-120		%REC	1	3/18/2015 12:49:55 PM	18167

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 Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates  
**Project:** Lateral C-7  
**Lab ID:** 1503746-005

**Client Sample ID:** SC-9  
**Collection Date:** 3/17/2015 10:27:00 AM  
**Received Date:** 3/18/2015 7:10:00 AM

**Matrix:** MEOH (SOIL)

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)	24	10		mg/Kg	1	3/18/2015 2:39:02 PM	18173
Surr: DNOP	103	63.5-128		%REC	1	3/18/2015 2:39:02 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	3/18/2015 1:18:37 PM	18167
Surr: BFB	90.6	80-120		%REC	1	3/18/2015 1:18:37 PM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.033		mg/Kg	1	3/18/2015 1:18:37 PM	18167
Toluene	ND	0.033		mg/Kg	1	3/18/2015 1:18:37 PM	18167
Ethylbenzene	ND	0.033		mg/Kg	1	3/18/2015 1:18:37 PM	18167
Xylenes, Total	ND	0.066		mg/Kg	1	3/18/2015 1:18:37 PM	18167
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	3/18/2015 1:18:37 PM	18167
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/18/2015 10:53:53 AM	18203

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

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

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates  
**Project:** Lateral C-7  
**Lab ID:** 1503746-006

**Client Sample ID:** SC-10  
**Collection Date:** 3/17/2015 10:30:00 AM  
**Received Date:** 3/18/2015 7:10:00 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	3/18/2015 3:02:17 PM	18173
Surr: DNOP	103	63.5-128		%REC	1	3/18/2015 3:02:17 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	3/18/2015 7:03:18 PM	18167
Surr: BFB	91.9	80-120		%REC	1	3/18/2015 7:03:18 PM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	3/18/2015 7:03:18 PM	18167
Toluene	ND	0.032		mg/Kg	1	3/18/2015 7:03:18 PM	18167
Ethylbenzene	ND	0.032		mg/Kg	1	3/18/2015 7:03:18 PM	18167
Xylenes, Total	ND	0.064		mg/Kg	1	3/18/2015 7:03:18 PM	18167
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	3/18/2015 7:03:18 PM	18167
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/18/2015 11:06:17 AM	18203

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 13
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-11

**Project:** Lateral C-7

**Collection Date:** 3/17/2015 10:33:00 AM

**Lab ID:** 1503746-007

**Matrix:** MEOH (SOIL)

**Received Date:** 3/18/2015 7:10:00 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)	25	9.9		mg/Kg	1	3/18/2015 3:24:05 PM	18173
Surr: DNOP	110	63.5-128		%REC	1	3/18/2015 3:24:05 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	3/18/2015 7:32:05 PM	18167
Surr: BFB	108	80-120		%REC	1	3/18/2015 7:32:05 PM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.033		mg/Kg	1	3/18/2015 7:32:05 PM	18167
Toluene	ND	0.033		mg/Kg	1	3/18/2015 7:32:05 PM	18167
Ethylbenzene	ND	0.033		mg/Kg	1	3/18/2015 7:32:05 PM	18167
Xylenes, Total	ND	0.067		mg/Kg	1	3/18/2015 7:32:05 PM	18167
Surr: 4-Bromofluorobenzene	109	80-120		%REC	1	3/18/2015 7:32:05 PM	18167

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates  
 Project: Lateral C-7  
 Lab ID: 1503746-008

Client Sample ID: SC-12  
 Collection Date: 3/17/2015 10:36:00 AM  
 Matrix: MEOH (SOIL) Received Date: 3/18/2015 7:10:00 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	3/18/2015 3:46:00 PM	18173
Surr: DNOP	100	63.5-128		%REC	1	3/18/2015 3:46:00 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	4.1	2.9		mg/Kg	1	3/18/2015 8:00:49 PM	18167
Surr: BFB	125	80-120	S	%REC	1	3/18/2015 8:00:49 PM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.029		mg/Kg	1	3/18/2015 8:00:49 PM	18167
Toluene	ND	0.029		mg/Kg	1	3/18/2015 8:00:49 PM	18167
Ethylbenzene	ND	0.029		mg/Kg	1	3/18/2015 8:00:49 PM	18167
Xylenes, Total	ND	0.059		mg/Kg	1	3/18/2015 8:00:49 PM	18167
Surr: 4-Bromofluorobenzene	108	80-120		%REC	1	3/18/2015 8:00:49 PM	18167
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	ND	30		mg/Kg	20	3/18/2015 11:18:41 AM	18203

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 13
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503746

Date Reported: 3/19/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-13

Project: Lateral C-7

Collection Date: 3/17/2015 10:39:00 AM

Lab ID: 1503746-009

Matrix: MEOH (SOIL)

Received Date: 3/18/2015 7:10:00 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	3/18/2015 4:07:36 PM	18173
Surr: DNOP	103	63.5-128		%REC	1	3/18/2015 4:07:36 PM	18173
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	3/18/2015 8:29:31 PM	18167
Surr: BFB	91.6	80-120		%REC	1	3/18/2015 8:29:31 PM	18167
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.030		mg/Kg	1	3/18/2015 8:29:31 PM	18167
Toluene	ND	0.030		mg/Kg	1	3/18/2015 8:29:31 PM	18167
Ethylbenzene	ND	0.030		mg/Kg	1	3/18/2015 8:29:31 PM	18167
Xylenes, Total	ND	0.059		mg/Kg	1	3/18/2015 8:29:31 PM	18167
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	3/18/2015 8:29:31 PM	18167

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 13
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503746

19-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	MB-18203	SampType	MBLK	TestCode	EPA Method 300.0: Anions					
Client ID	PBS	Batch ID	18203	RunNo	24924					
Prep Date	3/18/2015	Analysis Date	3/18/2015	SeqNo	734344	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-18203	SampType	LCS	TestCode	EPA Method 300.0: Anions					
Client ID	LCSS	Batch ID	18203	RunNo	24924					
Prep Date	3/18/2015	Analysis Date	3/18/2015	SeqNo	734345	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.4	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 Not In Range
- RL Reporting Detection Limit

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

WO#: 1503746  
 19-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID: <b>MB-18173</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>18173</b>		RunNo: <b>24890</b>							
Prep Date: <b>3/18/2015</b>	Analysis Date: <b>3/18/2015</b>		SeqNo: <b>733846</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		100	63.5	128			

Sample ID: <b>LCS-18173</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>18173</b>		RunNo: <b>24890</b>							
Prep Date: <b>3/18/2015</b>	Analysis Date: <b>3/18/2015</b>		SeqNo: <b>733847</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	93.7	67.8	130			
Surr: DNOP	4.3		5.000		85.3	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503746

19-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	<b>MB-18167</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18167</b>	RunNo:	<b>24903</b>					
Prep Date:	<b>3/16/2015</b>	Analysis Date:	<b>3/18/2015</b>	SeqNo:	<b>733915</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	910		1000		90.5	80	120			

Sample ID	<b>LCS-18167</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18167</b>	RunNo:	<b>24903</b>					
Prep Date:	<b>3/16/2015</b>	Analysis Date:	<b>3/18/2015</b>	SeqNo:	<b>733916</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	64	130			
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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503746

19-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	MB-18167	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	18167	RunNo:	24903					
Prep Date:	3/16/2015	Analysis Date:	3/18/2015	SeqNo:	733941	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID	LCS-18167	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	18167	RunNo:	24903					
Prep Date:	3/16/2015	Analysis Date:	3/18/2015	SeqNo:	733942	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.050	1.000	0	122	76.6	128			
Toluene	1.1	0.050	1.000	0	115	75	124			
Ethylbenzene	1.2	0.050	1.000	0	116	79.5	126			
Xylenes, Total	3.4	0.10	3.000	0	115	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	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 Not In Range
- RL Reporting Detection Limit



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

# Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1503746

ReptNo: 1

Received by/date: *AT* *03/18/15*  
 Logged By: Lindsay Mangin 3/18/2015 7:10:00 AM  
 Completed By: Lindsay Mangin 3/18/2015 7:19:53 AM  
 Reviewed By: *AT 03/18/15*

*Lindsay Mangin*  
*Lindsay Mangin*

### 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	1.0	Good	Yes			

# Chain-of-Custody Record

Client: **SMA**

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

Phone #: **505 325 3478**

email or Fax#: **Steve.Moskal@Souds.com**

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

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

EDD (Type)

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

Project Name:  
**Labrad C-7**

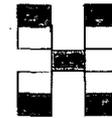
Project #:  
**N20609**

Project Manager:  
**Steve Moskal**

Sampler: **J. Sprague**

On Ice:  Yes     No

Sample Temperature: **1.0**



## 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 + TMBs (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B GRO / DRO (MMS)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <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 S	Air Bubbles (Y or N)
3-17	1015	Soil	SC-5	1402	neoh	1503416 -001	X	X	X									X	
	1018		SC-6			-002	X	X											
	1021		SC-7			-003	X	X											X
	1024		SC-8			-004	X	X											
	1027		SC-9			-005	X	X											X
	1030		SC-10			-006	X	X											X
	1033		SC-11			-007	X	X											X
	1036		SC-12			-008	X	X											X
	1039		SC-13			-009	X	X											X

Date: 3/17/15 Time: 1810 Relinquished by: **J-ES** Received by: **Christy Waele** Date: 3/17/15 Time: 1810 Remarks: **Bill Enterprise**

Date: 3/17/15 Time: 1841 Relinquished by: **Christy Waele** Received by: **Chris J** Date: 03/18/15 Time: 0710 Remarks: **Please copy Jessc.Sprague@soudsmilo.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)

March 23, 2015

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

RE: Lateral C-7

OrderNo.: 1503845

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 20 sample(s) on 3/19/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503845

Date Reported: 3/23/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-14 N Wall

Project: Lateral C-7

Collection Date: 3/18/2015 1:43:00 PM

Lab ID: 1503845-001

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 10:34:09 AM	18221
Surr: DNOP	107	63.5-128		%REC	1	3/19/2015 10:34:09 AM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.8		mg/Kg	1	3/19/2015 2:24:40 PM	18213
Surr: BFB	92.2	80-120		%REC	1	3/19/2015 2:24:40 PM	18213
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.028		mg/Kg	1	3/19/2015 2:24:40 PM	18213
Toluene	ND	0.028		mg/Kg	1	3/19/2015 2:24:40 PM	18213
Ethylbenzene	ND	0.028		mg/Kg	1	3/19/2015 2:24:40 PM	18213
Xylenes, Total	ND	0.056		mg/Kg	1	3/19/2015 2:24:40 PM	18213
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	3/19/2015 2:24:40 PM	18213
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 11:22:22 AM	18226

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 1 of 30
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates      Client Sample ID: SC-15 N Back  
 Project: Lateral C-7      Collection Date: 3/18/2015 1:46:00 PM  
 Lab ID: 1503845-002      Matrix: SOIL      Received Date: 3/19/2015 8:05:00 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	9.8		mg/Kg	1	3/19/2015 11:01:40 AM	18221
Surr: DNOP	117	63.5-128		%REC	1	3/19/2015 11:01:40 AM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	2.9		mg/Kg	1	3/19/2015 10:05:57 AM	18213
Surr: BFB	92.8	80-120		%REC	1	3/19/2015 10:05:57 AM	18213
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.029		mg/Kg	1	3/19/2015 10:05:57 AM	18213
Toluene	ND	0.029		mg/Kg	1	3/19/2015 10:05:57 AM	18213
Ethylbenzene	ND	0.029		mg/Kg	1	3/19/2015 10:05:57 AM	18213
Xylenes, Total	ND	0.057		mg/Kg	1	3/19/2015 10:05:57 AM	18213
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	3/19/2015 10:05:57 AM	18213
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	ND	30		mg/Kg	20	3/19/2015 11:59:35 AM	18226

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 30
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503845

Date Reported: 3/23/2015

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-16 N Wall Deep

**Project:** Lateral C-7

**Collection Date:** 3/18/2015 1:49:00 PM

**Lab ID:** 1503845-003

**Matrix:** SOIL

**Received Date:** 3/19/2015 8:05:00 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	3/19/2015 11:28:54 AM	18221
Surr: DNOP	121	63.5-128		%REC	1	3/19/2015 11:28:54 AM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							
Analyst: <b>NSB</b>							
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	3/19/2015 10:34:46 AM	18213
Surr: BFB	93.4	80-120		%REC	1	3/19/2015 10:34:46 AM	18213
<b>EPA METHOD 8021B: VOLATILES</b>							
Analyst: <b>NSB</b>							
Benzene	ND	0.030		mg/Kg	1	3/19/2015 10:34:46 AM	18213
Toluene	ND	0.030		mg/Kg	1	3/19/2015 10:34:46 AM	18213
Ethylbenzene	ND	0.030		mg/Kg	1	3/19/2015 10:34:46 AM	18213
Xylenes, Total	ND	0.061		mg/Kg	1	3/19/2015 10:34:46 AM	18213
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	3/19/2015 10:34:46 AM	18213
<b>EPA METHOD 300.0: ANIONS</b>							
Analyst: <b>LGT</b>							
Chloride	ND	30		mg/Kg	20	3/19/2015 12:12:00 PM	18226

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

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

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-17 N Deep Base

**Project:** Lateral C-7

**Collection Date:** 3/18/2015 1:52:00 PM

**Lab ID:** 1503845-004

**Matrix:** SOIL

**Received Date:** 3/19/2015 8:05:00 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	3/19/2015 12:01:59 PM	18221
Surr: DNOP	114	63.5-128		%REC	1	3/19/2015 12:01:59 PM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	3/19/2015 2:53:25 PM	R24929
Surr: BFB	93.6	80-120		%REC	1	3/19/2015 2:53:25 PM	R24929
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.033		mg/Kg	1	3/19/2015 2:53:25 PM	R24929
Toluene	ND	0.033		mg/Kg	1	3/19/2015 2:53:25 PM	R24929
Ethylbenzene	ND	0.033		mg/Kg	1	3/19/2015 2:53:25 PM	R24929
Xylenes, Total	ND	0.067		mg/Kg	1	3/19/2015 2:53:25 PM	R24929
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	3/19/2015 2:53:25 PM	R24929
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 12:49:13 PM	18226

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-18 S Deep Base

Project: Lateral C-7

Collection Date: 3/18/2015 1:55:00 PM

Lab ID: 1503845-005

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	9.8		mg/Kg	1	3/19/2015 12:29:22 PM	18221
Surr: DNOP	115	63.5-128		%REC	1	3/19/2015 12:29:22 PM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	3/19/2015 11:03:30 AM	18213
Surr: BFB	94.3	80-120		%REC	1	3/19/2015 11:03:30 AM	18213
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.033		mg/Kg	1	3/19/2015 11:03:30 AM	18213
Toluene	ND	0.033		mg/Kg	1	3/19/2015 11:03:30 AM	18213
Ethylbenzene	ND	0.033		mg/Kg	1	3/19/2015 11:03:30 AM	18213
Xylenes, Total	ND	0.066		mg/Kg	1	3/19/2015 11:03:30 AM	18213
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	3/19/2015 11:03:30 AM	18213
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	ND	30		mg/Kg	20	3/19/2015 1:01:38 PM	18226

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

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

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates      **Client Sample ID:** SC-19 S Deep Wall  
**Project:** Lateral C-7      **Collection Date:** 3/18/2015 1:58:00 PM  
**Lab ID:** 1503845-006      **Matrix:** SOIL      **Received Date:** 3/19/2015 8:05:00 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	3/19/2015 10:38:27 AM	18221
Surr: DNOP	106	63.5-128		%REC	1	3/19/2015 10:38:27 AM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.8		mg/Kg	1	3/19/2015 11:32:18 AM	18213
Surr: BFB	93.5	80-120		%REC	1	3/19/2015 11:32:18 AM	18213
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.028		mg/Kg	1	3/19/2015 11:32:18 AM	18213
Toluene	ND	0.028		mg/Kg	1	3/19/2015 11:32:18 AM	18213
Ethylbenzene	ND	0.028		mg/Kg	1	3/19/2015 11:32:18 AM	18213
Xylenes, Total	ND	0.056		mg/Kg	1	3/19/2015 11:32:18 AM	18213
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	3/19/2015 11:32:18 AM	18213
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 1:14:02 PM	18226

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-20 S Back

Project: Lateral C-7

Collection Date: 3/18/2015 2:01:00 PM

Lab ID: 1503845-007

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 10:59:55 AM	18221
Surr: DNOP	107	63.5-128		%REC	1	3/19/2015 10:59:55 AM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	3/19/2015 7:11:46 PM	R24929
Surr: BFB	92.4	80-120		%REC	1	3/19/2015 7:11:46 PM	R24929
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	3/19/2015 7:11:46 PM	R24929
Toluene	ND	0.032		mg/Kg	1	3/19/2015 7:11:46 PM	R24929
Ethylbenzene	ND	0.032		mg/Kg	1	3/19/2015 7:11:46 PM	R24929
Xylenes, Total	ND	0.064		mg/Kg	1	3/19/2015 7:11:46 PM	R24929
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	3/19/2015 7:11:46 PM	R24929
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 1:26:27 PM	18226

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

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

# Hall Environmental Analysis Laboratory, Inc.

**Analytical Report**  
 Lab Order 1503845  
 Date Reported: 3/23/2015

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-21 S Wall

**Project:** Lateral C-7

**Collection Date:** 3/18/2015 2:04:00 PM

**Lab ID:** 1503845-008

**Matrix:** SOIL

**Received Date:** 3/19/2015 8:05:00 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	3/19/2015 11:21:29 AM	18221
Surr: DNOP	98.4	63.5-128		%REC	1	3/19/2015 11:21:29 AM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	3/19/2015 12:01:01 PM	18213
Surr: BFB	93.7	80-120		%REC	1	3/19/2015 12:01:01 PM	18213
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.031		mg/Kg	1	3/19/2015 12:01:01 PM	18213
Toluene	ND	0.031		mg/Kg	1	3/19/2015 12:01:01 PM	18213
Ethylbenzene	ND	0.031		mg/Kg	1	3/19/2015 12:01:01 PM	18213
Xylenes, Total	ND	0.062		mg/Kg	1	3/19/2015 12:01:01 PM	18213
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	3/19/2015 12:01:01 PM	18213
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 1:38:51 PM	18226

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

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

Analytical Report

Lab Order 1503845

Date Reported: 3/23/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-22 NE Wall

Project: Lateral C-7

Collection Date: 3/18/2015 2:07:00 PM

Lab ID: 1503845-009

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 11:42:50 AM	18221
Surr: DNOP	102	63.5-128		%REC	1	3/19/2015 11:42:50 AM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	3/19/2015 7:40:31 PM	R24929
Surr: BFB	93.4	80-120		%REC	1	3/19/2015 7:40:31 PM	R24929
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	3/19/2015 7:40:31 PM	R24929
Toluene	ND	0.032		mg/Kg	1	3/19/2015 7:40:31 PM	R24929
Ethylbenzene	ND	0.032		mg/Kg	1	3/19/2015 7:40:31 PM	R24929
Xylenes, Total	ND	0.064		mg/Kg	1	3/19/2015 7:40:31 PM	R24929
Surr: 4-Bromofluorobenzene	108	80-120		%REC	1	3/19/2015 7:40:31 PM	R24929
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 1:51:16 PM	18226

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 30
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-23 NE Wall 2

Project: Lateral C-7

Collection Date: 3/18/2015 2:10:00 PM

Lab ID: 1503845-010

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 12:04:23 PM	18221
Surr: DNOP	99.1	63.5-128		%REC	1	3/19/2015 12:04:23 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	ND	30		mg/Kg	20	3/19/2015 2:03:40 PM	18226
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: cadg
Benzene	ND	0.036		mg/Kg	1	3/19/2015 3:02:05 PM	R24920
Toluene	ND	0.036		mg/Kg	1	3/19/2015 3:02:05 PM	R24920
Ethylbenzene	ND	0.036		mg/Kg	1	3/19/2015 3:02:05 PM	R24920
Xylenes, Total	ND	0.071		mg/Kg	1	3/19/2015 3:02:05 PM	R24920
Surr: 1,2-Dichloroethane-d4	99.1	70-130		%REC	1	3/19/2015 3:02:05 PM	R24920
Surr: 4-Bromofluorobenzene	102	70-130		%REC	1	3/19/2015 3:02:05 PM	R24920
Surr: Dibromofluoromethane	102	70-130		%REC	1	3/19/2015 3:02:05 PM	R24920
Surr: Toluene-d8	88.1	70-130		%REC	1	3/19/2015 3:02:05 PM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: cadg
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	3/19/2015 3:02:05 PM	R24920
Surr: BFB	110	67.4-150		%REC	1	3/19/2015 3:02:05 PM	R24920

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

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

Analytical Report

Lab Order 1503845

Date Reported: 3/23/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-24 E Wall Deep

Project: Lateral C-7

Collection Date: 3/18/2015 2:13:00 PM

Lab ID: 1503845-011

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 12:25:48 PM	18221
Surr: DNOP	101	63.5-128		%REC	1	3/19/2015 12:25:48 PM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.9		mg/Kg	1	3/19/2015 12:29:43 PM	18213
Surr: BFB	94.5	80-120		%REC	1	3/19/2015 12:29:43 PM	18213
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.029		mg/Kg	1	3/19/2015 12:29:43 PM	18213
Toluene	ND	0.029		mg/Kg	1	3/19/2015 12:29:43 PM	18213
Ethylbenzene	ND	0.029		mg/Kg	1	3/19/2015 12:29:43 PM	18213
Xylenes, Total	ND	0.058		mg/Kg	1	3/19/2015 12:29:43 PM	18213
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	3/19/2015 12:29:43 PM	18213
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 2:16:05 PM	18226

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates  
 Project: Lateral C-7  
 Lab ID: 1503845-012

Client Sample ID: SC-25 E Wall Deep South  
 Collection Date: 3/18/2015 2:16:00 PM  
 Received Date: 3/19/2015 8:05:00 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	3/19/2015 12:47:18 PM	18221
Surr: DNOP	105	63.5-128		%REC	1	3/19/2015 12:47:18 PM	18221
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	3/19/2015 12:58:28 PM	18213
Surr: BFB	94.0	80-120		%REC	1	3/19/2015 12:58:28 PM	18213
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.032		mg/Kg	1	3/19/2015 12:58:28 PM	18213
Toluene	ND	0.032		mg/Kg	1	3/19/2015 12:58:28 PM	18213
Ethylbenzene	ND	0.032		mg/Kg	1	3/19/2015 12:58:28 PM	18213
Xylenes, Total	ND	0.065		mg/Kg	1	3/19/2015 12:58:28 PM	18213
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	3/19/2015 12:58:28 PM	18213
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 2:28:29 PM	18226

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates  
 Project: Lateral C-7  
 Lab ID: 1503845-013

Client Sample ID: SC-26 E Wall S  
 Collection Date: 3/18/2015 2:19:00 PM  
 Received Date: 3/19/2015 8:05:00 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	3/19/2015 1:08:43 PM	18221
Surr: DNOP	108	63.5-128		%REC	1	3/19/2015 1:08:43 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	ND	30		mg/Kg	20	3/19/2015 2:40:54 PM	18226
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: cadg
Benzene	ND	0.035		mg/Kg	1	3/19/2015 11:11:41 AM	R24920
Toluene	ND	0.035		mg/Kg	1	3/19/2015 11:11:41 AM	R24920
Ethylbenzene	ND	0.035		mg/Kg	1	3/19/2015 11:11:41 AM	R24920
Xylenes, Total	ND	0.070		mg/Kg	1	3/19/2015 11:11:41 AM	R24920
Surr: 1,2-Dichloroethane-d4	97.3	70-130		%REC	1	3/19/2015 11:11:41 AM	R24920
Surr: 4-Bromofluorobenzene	99.6	70-130		%REC	1	3/19/2015 11:11:41 AM	R24920
Surr: Dibromofluoromethane	101	70-130		%REC	1	3/19/2015 11:11:41 AM	R24920
Surr: Toluene-d8	94.1	70-130		%REC	1	3/19/2015 11:11:41 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: cadg
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	3/19/2015 11:11:41 AM	R24920
Surr: BFB	110	67.4-150		%REC	1	3/19/2015 11:11:41 AM	R24920

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	ND Not Detected at the Reporting Limit
J Analyte detected below quantitation limits	P Sample pH Not In Range	RL Reporting Detection Limit
O RSD is greater than RSDlimit		
R RPD outside accepted recovery limits		
S Spike Recovery outside accepted-recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates  
 Project: Lateral C-7  
 Lab ID: 1503845-014

Client Sample ID: SC-27 E Wall S2  
 Collection Date: 3/18/2015 2:22:00 PM  
 Received Date: 3/19/2015 8:05:00 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	3/19/2015 1:30:10 PM	18221
Surr: DNOP	110	63.5-128		%REC	1	3/19/2015 1:30:10 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 3:18:06 PM	18226
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.030		mg/Kg	1	3/19/2015 11:40:28 AM	R24920
Toluene	ND	0.030		mg/Kg	1	3/19/2015 11:40:28 AM	R24920
Ethylbenzene	ND	0.030		mg/Kg	1	3/19/2015 11:40:28 AM	R24920
Xylenes, Total	ND	0.060		mg/Kg	1	3/19/2015 11:40:28 AM	R24920
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	1	3/19/2015 11:40:28 AM	R24920
Surr: 4-Bromofluorobenzene	105	70-130		%REC	1	3/19/2015 11:40:28 AM	R24920
Surr: Dibromofluoromethane	107	70-130		%REC	1	3/19/2015 11:40:28 AM	R24920
Surr: Toluene-d8	96.0	70-130		%REC	1	3/19/2015 11:40:28 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	3/19/2015 11:40:28 AM	R24920
Surr: BFB	111	67.4-150		%REC	1	3/19/2015 11:40:28 AM	R24920

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503845

Date Reported: 3/23/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-28 NW Wall

Project: Lateral C-7

Collection Date: 3/18/2015 2:25:00 PM

Lab ID: 1503845-015

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 1:51:33 PM	18221
Surr: DNOP	113	63.5-128		%REC	1	3/19/2015 1:51:33 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	51	30		mg/Kg	20	3/19/2015 3:30:30 PM	18226
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: cadg
Benzene	ND	0.034		mg/Kg	1	3/19/2015 12:09:18 PM	R24920
Toluene	ND	0.034		mg/Kg	1	3/19/2015 12:09:18 PM	R24920
Ethylbenzene	ND	0.034		mg/Kg	1	3/19/2015 12:09:18 PM	R24920
Xylenes, Total	ND	0.068		mg/Kg	1	3/19/2015 12:09:18 PM	R24920
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1	3/19/2015 12:09:18 PM	R24920
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	3/19/2015 12:09:18 PM	R24920
Surr: Dibromofluoromethane	106	70-130		%REC	1	3/19/2015 12:09:18 PM	R24920
Surr: Toluene-d8	93.0	70-130		%REC	1	3/19/2015 12:09:18 PM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: cadg
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	3/19/2015 12:09:18 PM	R24920
Surr: BFB	110	67.4-150		%REC	1	3/19/2015 12:09:18 PM	R24920

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503845

Date Reported: 3/23/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-29 NW Wall 2

Project: Lateral C-7

Collection Date: 3/18/2015 2:28:00 PM

Lab ID: 1503845-016

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	9.8		mg/Kg	1	3/19/2015 2:13:13 PM	18221
Surr: DNOP	108	63.5-128		%REC	1	3/19/2015 2:13:13 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	ND	30		mg/Kg	20	3/19/2015 3:42:55 PM	18226
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: cadg
Benzene	ND	0.036		mg/Kg	1	3/19/2015 12:38:02 PM	R24920
Toluene	ND	0.036		mg/Kg	1	3/19/2015 12:38:02 PM	R24920
Ethylbenzene	ND	0.036		mg/Kg	1	3/19/2015 12:38:02 PM	R24920
Xylenes, Total	ND	0.072		mg/Kg	1	3/19/2015 12:38:02 PM	R24920
Surr: 1,2-Dichloroethane-d4	99.4	70-130		%REC	1	3/19/2015 12:38:02 PM	R24920
Surr: 4-Bromofluorobenzene	97.7	70-130		%REC	1	3/19/2015 12:38:02 PM	R24920
Surr: Dibromofluoromethane	103	70-130		%REC	1	3/19/2015 12:38:02 PM	R24920
Surr: Toluene-d8	92.4	70-130		%REC	1	3/19/2015 12:38:02 PM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: cadg
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	3/19/2015 12:38:02 PM	R24920
Surr: BFB	104	67.4-150		%REC	1	3/19/2015 12:38:02 PM	R24920

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 16 of 30
E Value above quantitation range	H Holding times for preparation or analysis exceeded		
J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit		
O RSD is greater than RSDlimit	P Sample pH Not In Range		
R RPD outside accepted recovery limits	RL Reporting Detection Limit		
S Spike Recovery outside accepted recovery limits			

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503845

Date Reported: 3/23/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-30 NW Wall 3

Project: Lateral C-7

Collection Date: 3/18/2015 2:31:00 PM

Lab ID: 1503845-017

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 2:34:36 PM	18221
Surr: DNOP	110	63.5-128		%REC	1	3/19/2015 2:34:36 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 3:55:20 PM	18226
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.045		mg/Kg	1	3/19/2015 1:06:49 PM	R24920
Toluene	ND	0.045		mg/Kg	1	3/19/2015 1:06:49 PM	R24920
Ethylbenzene	ND	0.045		mg/Kg	1	3/19/2015 1:06:49 PM	R24920
Xylenes, Total	ND	0.089		mg/Kg	1	3/19/2015 1:06:49 PM	R24920
Surr: 1,2-Dichloroethane-d4	98.3	70-130		%REC	1	3/19/2015 1:06:49 PM	R24920
Surr: 4-Bromofluorobenzene	94.3	70-130		%REC	1	3/19/2015 1:06:49 PM	R24920
Surr: Dibromofluoromethane	102	70-130		%REC	1	3/19/2015 1:06:49 PM	R24920
Surr: Toluene-d8	93.6	70-130		%REC	1	3/19/2015 1:06:49 PM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	3/19/2015 1:06:49 PM	R24920
Surr: BFB	104	67.4-150		%REC	1	3/19/2015 1:06:49 PM	R24920

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 17 of 30
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503845

Date Reported: 3/23/2015

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-31 SW Wall

**Project:** Lateral C-7

**Collection Date:** 3/18/2015 2:34:00 PM

**Lab ID:** 1503845-018

**Matrix:** SOIL

**Received Date:** 3/19/2015 8:05:00 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	3/19/2015 12:56:58 PM	18221
Surr: DNOP	113	63.5-128		%REC	1	3/19/2015 12:56:58 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 4:32:34 PM	18230
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.032		mg/Kg	1	3/19/2015 1:35:34 PM	R24920
Toluene	ND	0.032		mg/Kg	1	3/19/2015 1:35:34 PM	R24920
Ethylbenzene	ND	0.032		mg/Kg	1	3/19/2015 1:35:34 PM	R24920
Xylenes, Total	ND	0.065		mg/Kg	1	3/19/2015 1:35:34 PM	R24920
Surr: 1,2-Dichloroethane-d4	98.4	70-130		%REC	1	3/19/2015 1:35:34 PM	R24920
Surr: 4-Bromofluorobenzene	93.1	70-130		%REC	1	3/19/2015 1:35:34 PM	R24920
Surr: Dibromofluoromethane	104	70-130		%REC	1	3/19/2015 1:35:34 PM	R24920
Surr: Toluene-d8	89.5	70-130		%REC	1	3/19/2015 1:35:34 PM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	3/19/2015 1:35:34 PM	R24920
Surr: BFB	101	67.4-150		%REC	1	3/19/2015 1:35:34 PM	R24920

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-32 SW Wall 2

Project: Lateral C-7

Collection Date: 3/18/2015 2:37:00 PM

Lab ID: 1503845-019

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 1:24:03 PM	18221
Surr: DNOP	116	63.5-128		%REC	1	3/19/2015 1:24:03 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	ND	30		mg/Kg	20	3/19/2015 4:44:58 PM	18230
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: cadg
Benzene	ND	0.046		mg/Kg	1	3/19/2015 2:04:20 PM	R24920
Toluene	ND	0.046		mg/Kg	1	3/19/2015 2:04:20 PM	R24920
Ethylbenzene	ND	0.046		mg/Kg	1	3/19/2015 2:04:20 PM	R24920
Xylenes, Total	ND	0.093		mg/Kg	1	3/19/2015 2:04:20 PM	R24920
Surr: 1,2-Dichloroethane-d4	97.6	70-130		%REC	1	3/19/2015 2:04:20 PM	R24920
Surr: 4-Bromofluorobenzene	95.2	70-130		%REC	1	3/19/2015 2:04:20 PM	R24920
Surr: Dibromofluoromethane	103	70-130		%REC	1	3/19/2015 2:04:20 PM	R24920
Surr: Toluene-d8	93.1	70-130		%REC	1	3/19/2015 2:04:20 PM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: cadg
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/19/2015 2:04:20 PM	R24920
Surr: BFB	106	67.4-150		%REC	1	3/19/2015 2:04:20 PM	R24920

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503845

Date Reported: 3/23/2015

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-33 SW Wall 3

Project: Lateral C-7

Collection Date: 3/18/2015 2:40:00 PM

Lab ID: 1503845-020

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/19/2015 1:51:18 PM	18221
Surr: DNOP	115	63.5-128		%REC	1	3/19/2015 1:51:18 PM	18221
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 4:57:23 PM	18230
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.034		mg/Kg	1	3/19/2015 2:33:15 PM	R24920
Toluene	ND	0.034		mg/Kg	1	3/19/2015 2:33:15 PM	R24920
Ethylbenzene	ND	0.034		mg/Kg	1	3/19/2015 2:33:15 PM	R24920
Xylenes, Total	ND	0.067		mg/Kg	1	3/19/2015 2:33:15 PM	R24920
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	3/19/2015 2:33:15 PM	R24920
Surr: 4-Bromofluorobenzene	90.8	70-130		%REC	1	3/19/2015 2:33:15 PM	R24920
Surr: Dibromofluoromethane	106	70-130		%REC	1	3/19/2015 2:33:15 PM	R24920
Surr: Toluene-d8	90.6	70-130		%REC	1	3/19/2015 2:33:15 PM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	3/19/2015 2:33:15 PM	R24920
Surr: BFB	110	67.4-150		%REC	1	3/19/2015 2:33:15 PM	R24920

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

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

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

WO#: 1503845  
 23-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID	MB-18226	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	18226	RunNo:	24944					
Prep Date:	3/19/2015	Analysis Date:	3/19/2015	SeqNo:	735228	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-18226	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	18226	RunNo:	24944					
Prep Date:	3/19/2015	Analysis Date:	3/19/2015	SeqNo:	735229	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.7	90	110			

Sample ID	MB-18230	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	18230	RunNo:	24944					
Prep Date:	3/19/2015	Analysis Date:	3/19/2015	SeqNo:	735257	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-18230	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	18230	RunNo:	24944					
Prep Date:	3/19/2015	Analysis Date:	3/19/2015	SeqNo:	735258	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.5	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503845

23-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	<b>MB-18221</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18221</b>	RunNo:	<b>24910</b>					
Prep Date:	<b>3/19/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734182</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	9.7		10.00		97.4	63.5	128			

Sample ID	<b>LCS-18221</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18221</b>	RunNo:	<b>24910</b>					
Prep Date:	<b>3/19/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734183</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	50.00	0	101	67.8	130			
Surr: DNOP	4.9		5.000		97.4	63.5	128			

Sample ID	<b>MB-18201</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18201</b>	RunNo:	<b>24912</b>					
Prep Date:	<b>3/18/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734292</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		124	63.5	128			

Sample ID	<b>MB-18211</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18211</b>	RunNo:	<b>24910</b>					
Prep Date:	<b>3/18/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734296</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.6		10.00		95.6	63.5	128			

Sample ID	<b>1503845-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-14 N Wall</b>	Batch ID:	<b>18221</b>	RunNo:	<b>24912</b>					
Prep Date:	<b>3/19/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734579</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	50.15	0	104	29.2	176			
Surr: DNOP	5.3		5.015		106	63.5	128			

Sample ID	<b>1503845-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-14 N Wall</b>	Batch ID:	<b>18221</b>	RunNo:	<b>24912</b>					
Prep Date:	<b>3/19/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734670</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	50.35	0	106	29.2	176	2.39	23	
Surr: DNOP	5.4		5.035		107	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503845

23-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	LCS-18211	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	18211	RunNo:	24910					
Prep Date:	3/18/2015	Analysis Date:	3/19/2015	SeqNo:	734679	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		91.0	63.5	128			

Sample ID	LCS-18201	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	18201	RunNo:	24912					
Prep Date:	3/18/2015	Analysis Date:	3/19/2015	SeqNo:	734682	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		99.7	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503845  
23-Mar-15

Client: Souder, Miller and Associates  
Project: Lateral C-7

Sample ID	<b>MB-18213</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18213</b>	RunNo:	<b>24929</b>					
Prep Date:	<b>3/18/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734777</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-18213</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18213</b>	RunNo:	<b>24929</b>					
Prep Date:	<b>3/18/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734778</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	64	130			
Surr: BFB	1000		1000		100	80	120			

Sample ID	<b>B24</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R24929</b>	RunNo:	<b>24929</b>					
Prep Date:		Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734794</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>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>R24929</b>	RunNo:	<b>24929</b>					
Prep Date:		Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734795</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.8	64	130			
Surr: BFB	1000		1000		101	80	120			

Sample ID	<b>1503845-004AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>SC-17 N Deep Base</b>	Batch ID:	<b>R24929</b>	RunNo:	<b>24929</b>					
Prep Date:		Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734797</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	16	3.3	16.71	0	92.8	47.9	144			
Surr: BFB	660		668.4		99.2	80	120			

Sample ID	<b>1503845-004AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>SC-17 N Deep Base</b>	Batch ID:	<b>R24929</b>	RunNo:	<b>24929</b>					
Prep Date:		Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734798</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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503845

23-Mar-15

**Client:** Souder, Miller and Associates

**Project:** Lateral C-7

Sample ID	1503845-004AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-17 N Deep Base	Batch ID:	R24929	RunNo:	24929					
Prep Date:		Analysis Date:	3/19/2015	SeqNo:	734798	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	18	3.3	16.71	0	107	47.9	144	14.4	29.9	
Surr: BFB	670		668.4		101	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503845  
23-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID	<b>MB-18213</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18213</b>	RunNo:	<b>24929</b>					
Prep Date:	<b>3/18/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734804</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		107	80	120			

Sample ID	<b>LCS-18213</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18213</b>	RunNo:	<b>24929</b>					
Prep Date:	<b>3/18/2015</b>	Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734805</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	76.6	128			
Toluene	0.98	0.050	1.000	0	97.8	75	124			
Ethylbenzene	0.97	0.050	1.000	0	96.8	79.5	126			
Xylenes, Total	2.9	0.10	3.000	0	96.7	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

Sample ID	<b>B24</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R24929</b>	RunNo:	<b>24929</b>					
Prep Date:		Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734825</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		107	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>R24929</b>	RunNo:	<b>24929</b>					
Prep Date:		Analysis Date:	<b>3/19/2015</b>	SeqNo:	<b>734826</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	115	76.6	128			
Toluene	1.1	0.050	1.000	0	110	75	124			
Ethylbenzene	1.1	0.050	1.000	0	110	79.5	126			
Xylenes, Total	3.3	0.10	3.000	0	109	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	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 Not In Range
- RL Reporting Detection Limit

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

WO#: 1503845  
 23-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID	1503845-007AMS		SampType:	MS		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	SC-20 S Back		Batch ID:	R24929		RunNo:	24929				
Prep Date:			Analysis Date:	3/19/2015		SeqNo:	734829		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.37	0.032	0.6414	0.005728	56.3	69.2	126			S	
Toluene	0.34	0.032	0.6414	0.006138	52.5	65.6	128			S	
Ethylbenzene	0.35	0.032	0.6414	0	54.5	65.5	138			S	
Xylenes, Total	1.0	0.064	1.924	0	53.4	63	139			S	
Surr: 4-Bromofluorobenzene	0.72		0.6414		112	80	120				

Sample ID	1503845-007AMSD		SampType:	MSD		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	SC-20 S Back		Batch ID:	R24929		RunNo:	24929				
Prep Date:			Analysis Date:	3/19/2015		SeqNo:	734830		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.73	0.032	0.6414	0.005728	114	69.2	126	66.7	18.5	R	
Toluene	0.69	0.032	0.6414	0.006138	106	65.6	128	66.6	20.6	R	
Ethylbenzene	0.69	0.032	0.6414	0	107	65.5	138	65.1	20.1	R	
Xylenes, Total	2.0	0.064	1.924	0	107	63	139	66.4	21.1	R	
Surr: 4-Bromofluorobenzene	0.75		0.6414		116	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503845

23-Mar-15

**Client:** Souder, Miller and Associates

**Project:** Lateral C-7

Sample ID	5mL rb		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles Short List				
Client ID:	PBS		Batch ID:	R24920		RunNo:	24920				
Prep Date:			Analysis Date:	3/19/2015		SeqNo:	734835		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	0.050									
Toluene	ND	0.050									
Ethylbenzene	ND	0.050									
Xylenes, Total	ND	0.10									
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.0	70	130				
Surr: 4-Bromofluorobenzene	0.53		0.5000		106	70	130				
Surr: Dibromofluoromethane	0.48		0.5000		96.2	70	130				
Surr: Toluene-d8	0.50		0.5000		101	70	130				

Sample ID	100ng lcs		SampType:	LCS		TestCode:	EPA Method 8260B: Volatiles Short List				
Client ID:	LCSS		Batch ID:	R24920		RunNo:	24920				
Prep Date:			Analysis Date:	3/19/2015		SeqNo:	734836		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	107	70	130				
Toluene	1.1	0.050	1.000	0	109	70	130				
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		97.6	70	130				
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130				
Surr: Dibromofluoromethane	0.49		0.5000		98.0	70	130				
Surr: Toluene-d8	0.51		0.5000		102	70	130				

Sample ID	1503845-013a ms		SampType:	MS		TestCode:	EPA Method 8260B: Volatiles Short List				
Client ID:	SC-26 E Wall S		Batch ID:	R24920		RunNo:	24920				
Prep Date:			Analysis Date:	3/19/2015		SeqNo:	734841		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.78	0.035	0.7047	0	111	57.8	132				
Toluene	0.75	0.035	0.7047	0	106	54.8	139				
Surr: 1,2-Dichloroethane-d4	0.34		0.3524		97.6	70	130				
Surr: 4-Bromofluorobenzene	0.34		0.3524		97.8	70	130				
Surr: Dibromofluoromethane	0.35		0.3524		100	70	130				
Surr: Toluene-d8	0.33		0.3524		94.2	70	130				

Sample ID	1503845-013a msd		SampType:	MSD		TestCode:	EPA Method 8260B: Volatiles Short List				
Client ID:	SC-26 E Wall S		Batch ID:	R24920		RunNo:	24920				
Prep Date:			Analysis Date:	3/20/2015		SeqNo:	734842		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.75	0.035	0.7047	0	107	57.8	132	4.12	20		
Toluene	0.71	0.035	0.7047	0	101	54.8	139	4.92	20		

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503845

23-Mar-15

**Client:** Souder, Miller and Associates

**Project:** Lateral C-7

Sample ID	1503845-013a msd	SampType:	MSD	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	SC-26 E Wall S	Batch ID:	R24920	RunNo:	24920					
Prep Date:		Analysis Date:	3/20/2015	SeqNo:	734842	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Surr: 1,2-Dichloroethane-d4	0.34		0.3524		97.7	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.35		0.3524		100	70	130	0	0	
Surr: Dibromofluoromethane	0.37		0.3524		104	70	130	0	0	
Surr: Toluene-d8	0.33		0.3524		94.2	70	130	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 Not In Range                             |
| 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#: 1503845

23-Mar-15

**Client:** Souder, Miller and Associates

**Project:** Lateral C-7

Sample ID	5mL rb	SampType:	MBLK	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	PBS	Batch ID:	R24920	RunNo:	24920					
Prep Date:		Analysis Date:	3/19/2015	SeqNo:	734871	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	490		500.0		97.6	67.4	150			

Sample ID	2.5ug gro lcs	SampType:	LCS	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	LCSS	Batch ID:	R24920	RunNo:	24920					
Prep Date:		Analysis Date:	3/19/2015	SeqNo:	734872	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	100	79.9	135			
Surr: BFB	500		500.0		99.7	67.4	150			

Sample ID	1503845-014a ms	SampType:	MS	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	SC-27 E Wall S2	Batch ID:	R24920	RunNo:	24920					
Prep Date:		Analysis Date:	3/20/2015	SeqNo:	734876	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	14	3.0	15.11	0	93.3	65.2	156			
Surr: BFB	330		302.1		108	67.4	150			

Sample ID	1503845-014a msd	SampType:	MSD	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	SC-27 E Wall S2	Batch ID:	R24920	RunNo:	24920					
Prep Date:		Analysis Date:	3/20/2015	SeqNo:	734877	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	13	3.0	15.11	0	89.3	65.2	156	4.34	20	
Surr: BFB	320		302.1		107	67.4	150	0	0	

**Qualifiers:**

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



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: 1503845

RcptNo: 1

Received by/date: AS 03/19/15

Logged By: Anne Thorne 3/19/2015 8:05:00 AM *Anne Thorne*

Completed By: Anne Thorne 3/19/2015 *Anne Thorne*

Reviewed By: *[Signature]* *03/19/15*

**Chain of Custody**

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

**Log In**

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

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

**Special Handling (if applicable)**

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

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

17. Additional remarks:

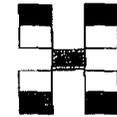
**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

# Chain-of-Custody Record

Client: SMA  
 Mailing Address: 401 W Broadway  
 Farmington NM 87401  
 Phone #: 505 325 7535  
 Email or Fax#: steven.moskal@soudsmills.com  
 QA/QC Package:  
 Standard  Level 4 (Full Validation)  
 Accreditation:  
 NELAP  Other \_\_\_\_\_  
 EDD (Type)

Turn-Around Time:  
 Standard  Rush Same Day  
 Project Name: Lateral C-7  
 Project #: N20609  
 Project Manager: Steve Moskal  
 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)	(MTBE)	(TPH)	(TPH + 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))
18	1343	Soil	SC-14 N wall	1 4oz 1 MeqH lit	MeqH	1503845 -01	X		X											X	
	1346		SC-15 N Bench			-02	X		X											X	
	1349		SC-16 N wall deep			-03	X		X											X	
	1352		SC-17 N Deep Base			-04	X		X											X	
	1355		SC-18 S Deep Base			-05	X		X											X	
	1358		SC-19 S Deep wall			-06	X		X											X	
	1401		SC-20 S Bench			-07	X		X											X	
	1404		SC-21 S wall			-08	X		X											X	
	1407		SC-22 NE wall			-09	X		X											X	
	1410		SC-23 W wall 2			-10	X		X											X	
	1413		SC-24 E wall Deep			-11	X		X											X	
	1416		SC-25 E wall Deep South			-12	X		X											X	

Date: 18 Time: 1900 Relinquished by: [Signature] Received by: [Signature] Date: 3/18/19 Time: 1900  
 Date: 18/15 Time: 2005 Relinquished by: [Signature] Received by: [Signature] Date: 03/19/15 Time: 0805

Remarks: Invoice Enterprise  
 Please copy Jesse.Sprague@soudsmills.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.

# Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W Broadway

Farmington NM 87401

Phone #: 505 325 7535

Email or Fax#: Steven.moskal@spodsmiller.com

QA/QC Package:

Standard  Level 4 (Full Validation)

Accreditation

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

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

Turn-Around Time:

Standard  Rush same day

Project Name: Lateral C-7

Project #: N20809

Project Manager: Steve Moskal

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 + MTBE + TPH (Gas only)	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)
-18	1419	soil	SC-26 E wall 5	1402 Koch kit	MeOH	1503845 -013	X	X	X									X	
	1422		SC-27 E wall 5 2			-014	X	X										X	
	1425		SC-28 NW wall			-015	X	X										X	
	1428		SC-29 NW wall 2			-016	X	X										X	
	1431		SC-30 NW wall 3			-017	X	X										X	
	1434		SC-31 SW wall			-018	X	X										X	
	1437		SC-32 SW wall 2			-019	X	X										X	
	1440		SC-33 SW wall 3			-020	X	X										X	

Date: -18 Time: 1900 Relinquished by: J-ES

Received by: Christina Walls Date: 3/18/15 Time: 1900

Remarks: Invoice Entoprise

Date: 3/18/15 Time: 2005 Relinquished by: Christina Walls

Received by: Steve Moskal Date: 03/19 Time: \_\_\_\_\_

Please copy Jesse.Sprague@spodsmiller.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)

March 25, 2015

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

RE: Lateral C-7

OrderNo.: 1503850

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 7 sample(s) on 3/19/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**

Lab Order 1503850

Date Reported: 3/25/2015

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-34 250-300' W Bar ditch

**Project:** Lateral C-7

**Collection Date:** 3/18/2015 2:43:00 PM

**Lab ID:** 1503850-001

**Matrix:** SOIL

**Received Date:** 3/19/2015 8:05:00 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	3/20/2015 8:27:48 AM	18222
Surr: DNOP	115	63.5-128		%REC	1	3/20/2015 8:27:48 AM	18222
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							
Analyst: <b>cadg</b>							
Benzene	ND	0.048		mg/Kg	1	3/20/2015 1:34:51 AM	R24920
Toluene	ND	0.048		mg/Kg	1	3/20/2015 1:34:51 AM	R24920
Ethylbenzene	ND	0.048		mg/Kg	1	3/20/2015 1:34:51 AM	R24920
Xylenes, Total	ND	0.097		mg/Kg	1	3/20/2015 1:34:51 AM	R24920
Surr: 1,2-Dichloroethane-d4	97.6	70-130		%REC	1	3/20/2015 1:34:51 AM	R24920
Surr: 4-Bromofluorobenzene	95.3	70-130		%REC	1	3/20/2015 1:34:51 AM	R24920
Surr: Dibromofluoromethane	103	70-130		%REC	1	3/20/2015 1:34:51 AM	R24920
Surr: Toluene-d8	91.9	70-130		%REC	1	3/20/2015 1:34:51 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							
Analyst: <b>cadg</b>							
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/20/2015 1:34:51 AM	R24920
Surr: BFB	104	67.4-150		%REC	1	3/20/2015 1:34:51 AM	R24920

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

<b>Qualifiers:</b>	<ul style="list-style-type: none"> <li>* Value exceeds Maximum Contaminant Level.</li> <li>E Value above quantitation range</li> <li>J Analyte detected below quantitation limits</li> <li>O RSD is greater than RSDlimit</li> <li>R RPD outside accepted recovery limits</li> <li>S Spike Recovery outside accepted recovery limits</li> </ul>	<ul style="list-style-type: none"> <li>B Analyte detected in the associated Method Blank</li> <li>H Holding times for preparation or analysis exceeded</li> <li>ND Not Detected at the Reporting Limit</li> <li>P Sample pH Not In Range</li> <li>RL Reporting Detection Limit</li> </ul>	Page 1 of 12
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# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1503850

Date Reported: 3/25/2015

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-35 200-250" W Bar ditch

**Project:** Lateral C-7

**Collection Date:** 3/18/2015 2:46:00 PM

**Lab ID:** 1503850-002

**Matrix:** SOIL

**Received Date:** 3/19/2015 8:05:00 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)	14	9.8		mg/Kg	1	3/20/2015 9:32:22 AM	18222
Surr: DNOP	118	63.5-128		%REC	1	3/20/2015 9:32:22 AM	18222
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	100	30		mg/Kg	20	3/19/2015 5:59:26 PM	18230
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.045		mg/Kg	1	3/20/2015 2:03:39 AM	R24920
Toluene	ND	0.045		mg/Kg	1	3/20/2015 2:03:39 AM	R24920
Ethylbenzene	ND	0.045		mg/Kg	1	3/20/2015 2:03:39 AM	R24920
Xylenes, Total	ND	0.089		mg/Kg	1	3/20/2015 2:03:39 AM	R24920
Surr: 1,2-Dichloroethane-d4	98.4	70-130		%REC	1	3/20/2015 2:03:39 AM	R24920
Surr: 4-Bromofluorobenzene	96.2	70-130		%REC	1	3/20/2015 2:03:39 AM	R24920
Surr: Dibromofluoromethane	102	70-130		%REC	1	3/20/2015 2:03:39 AM	R24920
Surr: Toluene-d8	92.9	70-130		%REC	1	3/20/2015 2:03:39 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	3/20/2015 2:03:39 AM	R24920
Surr: BFB	114	67.4-150		%REC	1	3/20/2015 2:03:39 AM	R24920

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

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

Analytical Report

Lab Order 1503850

Date Reported: 3/25/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-36 150-200' W Bar Ditch

Project: Lateral C-7

Collection Date: 3/18/2015 2:49:00 PM

Lab ID: 1503850-003

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/20/2015 9:53:49 AM	18222
Surr: DNOP	107	63.5-128		%REC	1	3/20/2015 9:53:49 AM	18222
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.058		mg/Kg	1	3/20/2015 2:32:28 AM	R24920
Toluene	ND	0.058		mg/Kg	1	3/20/2015 2:32:28 AM	R24920
Ethylbenzene	ND	0.058		mg/Kg	1	3/20/2015 2:32:28 AM	R24920
Xylenes, Total	ND	0.12		mg/Kg	1	3/20/2015 2:32:28 AM	R24920
Surr: 1,2-Dichloroethane-d4	96.3	70-130		%REC	1	3/20/2015 2:32:28 AM	R24920
Surr: 4-Bromofluorobenzene	96.0	70-130		%REC	1	3/20/2015 2:32:28 AM	R24920
Surr: Dibromofluoromethane	100	70-130		%REC	1	3/20/2015 2:32:28 AM	R24920
Surr: Toluene-d8	89.2	70-130		%REC	1	3/20/2015 2:32:28 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	5.8		mg/Kg	1	3/20/2015 2:32:28 AM	R24920
Surr: BFB	101	67.4-150		%REC	1	3/20/2015 2:32:28 AM	R24920

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

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

**Analytical Report**

Lab Order 1503850

Date Reported: 3/25/2015

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-37 100-150' W Bar Ditch

**Project:** Lateral C-7

**Collection Date:** 3/18/2015 2:52:00 PM

**Lab ID:** 1503850-004

**Matrix:** SOIL

**Received Date:** 3/19/2015 8:05:00 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	10		mg/Kg	1	3/20/2015 12:23:20 PM	18222
Surr: DNOP	106	63.5-128		%REC	1	3/20/2015 12:23:20 PM	18222
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	33	30		mg/Kg	20	3/19/2015 6:11:51 PM	18230
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.039		mg/Kg	1	3/20/2015 3:01:16 AM	R24920
Toluene	ND	0.039		mg/Kg	1	3/20/2015 3:01:16 AM	R24920
Ethylbenzene	ND	0.039		mg/Kg	1	3/20/2015 3:01:16 AM	R24920
Xylenes, Total	ND	0.079		mg/Kg	1	3/20/2015 3:01:16 AM	R24920
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	3/20/2015 3:01:16 AM	R24920
Surr: 4-Bromofluorobenzene	95.9	70-130		%REC	1	3/20/2015 3:01:16 AM	R24920
Surr: Dibromofluoromethane	106	70-130		%REC	1	3/20/2015 3:01:16 AM	R24920
Surr: Toluene-d8	92.2	70-130		%REC	1	3/20/2015 3:01:16 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	3/20/2015 3:01:16 AM	R24920
Surr: BFB	106	67.4-150		%REC	1	3/20/2015 3:01:16 AM	R24920

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-38 50-100' W Bar Ditch

Project: Lateral C-7

Collection Date: 3/18/2015 2:55:00 PM

Lab ID: 1503850-005

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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)	41	9.8		mg/Kg	1	3/20/2015 9:22:36 AM	18222
Surr: DNOP	114	63.5-128		%REC	1	3/20/2015 9:22:36 AM	18222
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.043		mg/Kg	1	3/20/2015 3:30:05 AM	R24920
Toluene	0.047	0.043		mg/Kg	1	3/20/2015 3:30:05 AM	R24920
Ethylbenzene	ND	0.043		mg/Kg	1	3/20/2015 3:30:05 AM	R24920
Xylenes, Total	ND	0.086		mg/Kg	1	3/20/2015 3:30:05 AM	R24920
Surr: 1,2-Dichloroethane-d4	95.4	70-130		%REC	1	3/20/2015 3:30:05 AM	R24920
Surr: 4-Bromofluorobenzene	98.7	70-130		%REC	1	3/20/2015 3:30:05 AM	R24920
Surr: Dibromofluoromethane	99.1	70-130		%REC	1	3/20/2015 3:30:05 AM	R24920
Surr: Toluene-d8	89.0	70-130		%REC	1	3/20/2015 3:30:05 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	11	4.3		mg/Kg	1	3/20/2015 3:30:05 AM	R24920
Surr: BFB	109	67.4-150		%REC	1	3/20/2015 3:30:05 AM	R24920

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

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

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Souder, Miller and Associates

**Client Sample ID:** SC-39 0-50' W Bar Ditch

**Project:** Lateral C-7

**Collection Date:** 3/18/2015 2:58:00 PM

**Lab ID:** 1503850-006

**Matrix:** SOIL

**Received Date:** 3/19/2015 8:05:00 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	3/20/2015 9:49:48 AM	18222
Surr: DNOP	116	63.5-128		%REC	1	3/20/2015 9:49:48 AM	18222
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/19/2015 6:24:15 PM	18230
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	0.037		mg/Kg	1	3/20/2015 3:58:53 AM	R24920
Toluene	ND	0.037		mg/Kg	1	3/20/2015 3:58:53 AM	R24920
Ethylbenzene	ND	0.037		mg/Kg	1	3/20/2015 3:58:53 AM	R24920
Xylenes, Total	ND	0.074		mg/Kg	1	3/20/2015 3:58:53 AM	R24920
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	3/20/2015 3:58:53 AM	R24920
Surr: 4-Bromofluorobenzene	98.8	70-130		%REC	1	3/20/2015 3:58:53 AM	R24920
Surr: Dibromofluoromethane	104	70-130		%REC	1	3/20/2015 3:58:53 AM	R24920
Surr: Toluene-d8	91.1	70-130		%REC	1	3/20/2015 3:58:53 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>cadg</b>
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	3/20/2015 3:58:53 AM	R24920
Surr: BFB	108	67.4-150		%REC	1	3/20/2015 3:58:53 AM	R24920

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Souder, Miller and Associates

Client Sample ID: SC-40 Background

Project: Lateral C-7

Collection Date: 3/18/2015 3:01:00 PM

Lab ID: 1503850-007

Matrix: SOIL

Received Date: 3/19/2015 8:05:00 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	3/20/2015 10:16:54 AM	18222
Surr: DNOP	114	63.5-128		%REC	1	3/20/2015 10:16:54 AM	18222
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: LGT
Chloride	ND	30		mg/Kg	20	3/24/2015 10:51:49 AM	18295
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: cadg
Benzene	ND	0.046		mg/Kg	1	3/20/2015 4:27:37 AM	R24920
Toluene	ND	0.046		mg/Kg	1	3/20/2015 4:27:37 AM	R24920
Ethylbenzene	ND	0.046		mg/Kg	1	3/20/2015 4:27:37 AM	R24920
Xylenes, Total	ND	0.091		mg/Kg	1	3/20/2015 4:27:37 AM	R24920
Surr: 1,2-Dichloroethane-d4	98.0	70-130		%REC	1	3/20/2015 4:27:37 AM	R24920
Surr: 4-Bromofluorobenzene	104	70-130		%REC	1	3/20/2015 4:27:37 AM	R24920
Surr: Dibromofluoromethane	101	70-130		%REC	1	3/20/2015 4:27:37 AM	R24920
Surr: Toluene-d8	88.0	70-130		%REC	1	3/20/2015 4:27:37 AM	R24920
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: cadg
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/20/2015 4:27:37 AM	R24920
Surr: BFB	110	67.4-150		%REC	1	3/20/2015 4:27:37 AM	R24920

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

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

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

WO#: 1503850  
 25-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID <b>MB-18230</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>18230</b>		RunNo: <b>24944</b>							
Prep Date: <b>3/19/2015</b>	Analysis Date: <b>3/19/2015</b>		SeqNo: <b>735257</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID <b>LCS-18230</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>18230</b>		RunNo: <b>24944</b>							
Prep Date: <b>3/19/2015</b>	Analysis Date: <b>3/19/2015</b>		SeqNo: <b>735258</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.5	90	110			

Sample ID <b>MB-18295</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>18295</b>		RunNo: <b>25049</b>							
Prep Date: <b>3/24/2015</b>	Analysis Date: <b>3/24/2015</b>		SeqNo: <b>739028</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID <b>LCS-18295</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>18295</b>		RunNo: <b>25049</b>							
Prep Date: <b>3/24/2015</b>	Analysis Date: <b>3/24/2015</b>		SeqNo: <b>739029</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.9	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503850

25-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID <b>MB-18222</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>18222</b>		RunNo: <b>24912</b>							
Prep Date: <b>3/19/2015</b>	Analysis Date: <b>3/19/2015</b>		SeqNo: <b>734184</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	11		10.00		110	63.5	128			

Sample ID <b>LCS-18222</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>18222</b>		RunNo: <b>24912</b>							
Prep Date: <b>3/19/2015</b>	Analysis Date: <b>3/19/2015</b>		SeqNo: <b>734185</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	67.8	130			
Surr: DNOP	4.9		5.000		98.5	63.5	128			

Sample ID <b>MB-18200</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>18200</b>		RunNo: <b>24912</b>							
Prep Date: <b>3/18/2015</b>	Analysis Date: <b>3/19/2015</b>		SeqNo: <b>734189</b>		Units: <b>%REC</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		108	63.5	128			

Sample ID <b>LCS-18200</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>18200</b>		RunNo: <b>24912</b>							
Prep Date: <b>3/18/2015</b>	Analysis Date: <b>3/19/2015</b>		SeqNo: <b>734192</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		98.9	63.5	128			

Sample ID <b>MB-18201</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>18201</b>		RunNo: <b>24912</b>							
Prep Date: <b>3/18/2015</b>	Analysis Date: <b>3/19/2015</b>		SeqNo: <b>734292</b>		Units: <b>%REC</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		124	63.5	128			

Sample ID <b>LCS-18201</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>18201</b>		RunNo: <b>24912</b>							
Prep Date: <b>3/18/2015</b>	Analysis Date: <b>3/19/2015</b>		SeqNo: <b>734682</b>		Units: <b>%REC</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		99.7	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503850  
25-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID	1503850-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	SC-34 250-300' W B	Batch ID:	18222	RunNo:	24910					
Prep Date:	3/19/2015	Analysis Date:	3/20/2015	SeqNo:	735108	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.25	6.442	86.3	29.2	176			
Surr: DNOP	5.3		5.025		106	63.5	128			

Sample ID	1503850-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	SC-34 250-300' W B	Batch ID:	18222	RunNo:	24910					
Prep Date:	3/19/2015	Analysis Date:	3/20/2015	SeqNo:	735109	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.9	49.70	6.442	78.2	29.2	176	9.42	23	
Surr: DNOP	5.4		4.970		108	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 Not In Range
- RL Reporting Detection Limit

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

WO#: 1503850

25-Mar-15

**Client:** Souder, Miller and Associates

**Project:** Lateral C-7

Sample ID: <b>5mL rb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>PBS</b>	Batch ID: <b>R24920</b>	RunNo: <b>24920</b>								
Prep Date:	Analysis Date: <b>3/19/2015</b>	SeqNo: <b>734835</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: 1,2-Dichloroethane-d4	0.47		0.5000		93.0	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		106	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		96.2	70	130			
Surr: Toluene-d8	0.50		0.5000		101	70	130			

Sample ID: <b>100ng lcs</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>R24920</b>	RunNo: <b>24920</b>								
Prep Date:	Analysis Date: <b>3/19/2015</b>	SeqNo: <b>734836</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	70	130			
Toluene	1.1	0.050	1.000	0	109	70	130			
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		97.6	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		98.0	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

**Qualifiers:**

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

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

WO#: 1503850  
 25-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID: <b>5mL rb</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>R24920</b>		RunNo: <b>24920</b>							
Prep Date:	Analysis Date: <b>3/19/2015</b>		SeqNo: <b>734871</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	490		500.0		97.6	67.4	150			

Sample ID: <b>2.5ug gro lcs</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>R24920</b>		RunNo: <b>24920</b>							
Prep Date:	Analysis Date: <b>3/19/2015</b>		SeqNo: <b>734872</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	79.9	135			
Surr: BFB	500		500.0		99.7	67.4	150			

**Qualifiers:**

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



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: 1503850

RcptNo: 1

Received by/date: At 03/19/15

Logged By: Anne Thorne 3/19/2015 8:05:00 AM *Anne Thorne*

Completed By: Anne Thorne 3/19/2015 *Anne Thorne*

Reviewed By: *[Signature]* 03/19/15

### Chain of Custody

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

### Log In

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

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

### Special Handling (if applicable)

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

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

17. Additional remarks:

### 18. Cooler Information

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

# Chain-of-Custody Record

Client: SMA

Turn-Around Time:  
 Standard  Rush Next Day

Mailing Address: 401 W Broadway  
Farmington, NM 87401

Project Name:  
Lateral C-7

Phone #: 505 325 3535

Project #:  
N 20609

Email or Fax#: Steve.Mostkal@soudemiller.com

Project Manager:  
Steve Mostkal

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

Accreditation:  
 NELAP  Other

EDD (Type)

Sampler: JS  
 On Ice:  Yes  No

Sample Temperature: 1.0

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
5-18	1443	Soil	SC-34 250-300 W Bar ditch	1 4oz	-	503850 -C01
	1446		SC-35 200-250 W Bar ditch			-C02
	1449		SC-36 150-200 W Bar ditch			-C03
	1452		SC-37 100-150 West Bar Ditch			-C04
	1455		SC-38 50-100 West Bar ditch			-C05
	1458		SC-39 0-50 West Bar ditch			-C06
	1501		SC-40 Background			-C07

Analysis Request											
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRG / 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)	300.0 Chlorides	Air Bubbles (Y or N)



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date: 5-18 Time: 1900 Relinquished by: [Signature]  
 Date: 5/15/2005 Time: 0805 Received by: [Signature]

Remarks: Invoice Enterprise  
Please copy  
Jesse.Sprague@soudemiller.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.



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)

March 31, 2015

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

RE: Lateral C-7

OrderNo.: 1503B68

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/25/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
 Lab Order 1503B68  
 Date Reported: 3/31/2015

**CLIENT:** Souder, Miller and Associates **Client Sample ID:** SC-1 @ 1'  
**Project:** Lateral C-7 **Collection Date:** 3/24/2015 9:30:00 AM  
**Lab ID:** 1503B68-001 **Matrix:** SOIL **Received Date:** 3/25/2015 7:55:00 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	3/27/2015 3:56:33 PM	18351
Surr: DNOP	105	63.5-128		%REC	1	3/27/2015 3:56:33 PM	18351
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/28/2015 11:09:23 AM	18355
Surr: BFB	89.9	80-120		%REC	1	3/28/2015 11:09:23 AM	18355
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.049		mg/Kg	1	3/28/2015 11:09:23 AM	18355
Toluene	ND	0.049		mg/Kg	1	3/28/2015 11:09:23 AM	18355
Ethylbenzene	ND	0.049		mg/Kg	1	3/28/2015 11:09:23 AM	18355
Xylenes, Total	ND	0.097		mg/Kg	1	3/28/2015 11:09:23 AM	18355
Surr: 4-Bromofluorobenzene	100	80-120		%REC	1	3/28/2015 11:09:23 AM	18355
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	39	30		mg/Kg	20	3/30/2015 3:05:50 PM	18413

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 1 of 5
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503B68

31-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	MB-18413	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	18413	RunNo:	25153					
Prep Date:	3/30/2015	Analysis Date:	3/30/2015	SeqNo:	744362	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-18413	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	18413	RunNo:	25153					
Prep Date:	3/30/2015	Analysis Date:	3/30/2015	SeqNo:	744363	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.9	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503B68

31-Mar-15

Client: Souder, Miller and Associates

Project: Lateral C-7

Sample ID	<b>MB-18351</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18351</b>	RunNo:	<b>25073</b>					
Prep Date:	<b>3/26/2015</b>	Analysis Date:	<b>3/27/2015</b>	SeqNo:	<b>742950</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	9.7		10.00		97.5	63.5	128			

Sample ID	<b>LCS-18351</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18351</b>	RunNo:	<b>25073</b>					
Prep Date:	<b>3/26/2015</b>	Analysis Date:	<b>3/27/2015</b>	SeqNo:	<b>742951</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	95.2	67.8	130			
Surr: DNOP	4.9		5.000		97.7	63.5	128			

Sample ID	<b>1503B68-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-1 @ 1'</b>	Batch ID:	<b>18351</b>	RunNo:	<b>25073</b>					
Prep Date:	<b>3/26/2015</b>	Analysis Date:	<b>3/27/2015</b>	SeqNo:	<b>742952</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	49.85	0	105	29.2	176			
Surr: DNOP	5.2		4.985		103	63.5	128			

Sample ID	<b>1503B68-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-1 @ 1'</b>	Batch ID:	<b>18351</b>	RunNo:	<b>25073</b>					
Prep Date:	<b>3/26/2015</b>	Analysis Date:	<b>3/27/2015</b>	SeqNo:	<b>742953</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	50.20	0	99.9	29.2	176	4.54	23	
Surr: DNOP	5.2		5.020		104	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1503B68

31-Mar-15

**Client:** Souder, Miller and Associates

**Project:** Lateral C-7

Sample ID: <b>MB-18355</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>18355</b>	RunNo: <b>25124</b>								
Prep Date: <b>3/26/2015</b>	Analysis Date: <b>3/27/2015</b>	SeqNo: <b>742102</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	910		1000		91.2	80	120			

Sample ID: <b>LCS-18355</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>18355</b>	RunNo: <b>25124</b>								
Prep Date: <b>3/26/2015</b>	Analysis Date: <b>3/27/2015</b>	SeqNo: <b>742103</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	97.5	64	130			
Surr: BFB	990		1000		99.2	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 Not In Range
- RL Reporting Detection Limit

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

WO#: 1503B68  
 31-Mar-15

**Client:** Souder, Miller and Associates  
**Project:** Lateral C-7

Sample ID: <b>MB-18355</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>18355</b>	RunNo: <b>25124</b>								
Prep Date: <b>3/26/2015</b>	Analysis Date: <b>3/27/2015</b>	SeqNo: <b>742123</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		103	80	120			

Sample ID: <b>LCS-18355</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>18355</b>	RunNo: <b>25124</b>								
Prep Date: <b>3/26/2015</b>	Analysis Date: <b>3/27/2015</b>	SeqNo: <b>742124</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	110	76.6	128			
Toluene	1.1	0.050	1.000	0	106	75	124			
Ethylbenzene	1.0	0.050	1.000	0	104	79.5	126			
Xylenes, Total	3.1	0.10	3.000	0	103	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	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 Not In Range
- RL Reporting Detection Limit



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

# Sample Log-In Check List

Client Name: **SMA-FARM** Work Order Number: **1503B68** RcptNo: **1**

Received by/date: *L-m* *03/25/15*

Logged By: **Ashley Gallegos** **3/25/2015 7:55:00 AM** *AG*

Completed By: **Ashley Gallegos** **3/25/2015 5:58:39 PM** *AG*

Reviewed By: *ga* *03/24/15*

**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  # of preserved bottles checked for pH: ( <2 or >12 unless noted)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No  Adjusted?
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes  No  Checked by:

**Special Handling (if applicable)**

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

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

17. Additional remarks:

**Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Yes			



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 CONS. DIV DIST. 3

JUN 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 3C</b>	Facility Type: <b>Natural Gas Gathering Pipeline</b>

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

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	32	29N	12W	133	North	2293	East	San Juan

Latitude 36.689936 Longitude -108.121466

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release: <b>Unknown</b>	Volume Recovered: <b>None</b>
Source of Release: Suspected internal corrosion	Date and Hour of Occurrence: <b>5/12/15 @ 12:45 p.m.</b>	Date and Hour of Discovery: <b>5/12/15 @ 1:40 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? Thomas Long	Date and Time	
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 May 12, 2015 Enterprise technicians discovered a pipeline release on Trunk 3C during a routine pipeline patrol. The line was isolated, blown down, depressurized, locked out and tagged out. A small area of soil staining was observed on the ground surface. The release is suspected to be caused by internal corrosion.

Describe Area Affected and Cleanup Action: The repairs and remediation were completed on 5/28/2015. The subsurface contaminants were removed by mechanical excavation. 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>6/9/15</i>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <i>5-27-2015</i>	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

#NCS 1514151 763

①

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

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

Form C-141  
Revised August 8, 2011

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company: Enterprise Field Services LLC	Contact: Thomas Long
Address: 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name: Lateral 10D-5	Facility Type: Natural Gas Gathering Pipeline

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

Unit Letter L	Section 12	Township 26N	Range 12W	Feet from the 2452	North/South Line South	Feet from the 195	East/West Line West	County San Juan
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Latitude 36.502164 Longitude 108.071308

OIL CONS. DIV DIST. 3

JUN 15 2015

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release: <b>Unknown</b>	Volume Recovered: <b>None</b>
Source of Release: Suspected internal corrosion	Date and Hour of Occurrence: 5/28/2015 @ 5:00 p.m.	Date and Hour of Discovery: 5/28/2015 @ 5:30 p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom? Thomas Long	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 May 28, 2015, during routine operations a field operation technician identified a natural gas release on the Lateral 10D-5 pipeline. The pipeline was isolated, depressurized, locked out and tagged out. Repairs of the pipeline began June 9, 2015. Subsurface impacts are unknown and will be evaluated during repair activities.

Describe Area Affected and Cleanup Action Taken.\* A small area of soil staining was observed on the ground surface. Subsurface impacts are unknown and will be evaluated during repair activities.

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

Signature: <i>Jon E. Fields</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: <u>6/22/15</u>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <u>6-10-2015</u> Phone: (713)381-6684		

\* Attach Additional Sheets If Necessary

#NCS 1517350063

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

**JUN 26 2015**

Form C-141  
Revised August 8, 2011

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company: Williams Four Corners LLC	Contact: Kelsey Christiansen
Address: 188 CR 4900, Bloomfield, NM 87413	Telephone No.: (505) 632-4606
Facility Name: 809 Pipeline	Facility Type: Pipeline

Surface Owner: BLM	Mineral Owner	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
F	28	27N	10W					San Juan

Latitude 36.57656° N Longitude -107.90356° W

**NATURE OF RELEASE**

Type of Release: Natural Gas	Volume of Release: 1,247 MCF Natural Gas	Volume Recovered: 0 MCF Natural Gas
Source of Release: Pinhole	Date and Hour of Occurrence: 06/16/15 at 11:30 AM MST	Date and Hour of Discovery: 06/16/15 at 11:30 AM MST
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Cory Smith, NMOCD Shari Ketcham, BLM	
By Whom? Kelsey Christiansen	Date and Hour: 06/17/15 at 7:15 AM MST	
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.\*  
Not Applicable

Describe Cause of Problem and Remedial Action Taken.\*  
Williams' personnel discovered a pinhole leak on the 809 Pipeline on June 16, 2015. The pipeline was isolated and adjacent well heads were shut in while repairs to the pipeline were made. Approximately 1,247 MCF of natural gas was released.

Describe Area Affected and Cleanup Action Taken.\*  
Confirmation soil samples will be collected to insure cleanup standards are met.

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>	
	Approved by Environmental Specialist:	
Printed Name: Kelsey Christiansen	Approval Date: 7/8/15	Expiration Date:
Title: Environmental Specialist	Conditions of Approval:	
E-mail Address: kelsey.christiansen@williams.com	Attached <input type="checkbox"/>	
Date: 06/18/15	Phone: (505) 632-4606	

\* Attach Additional Sheets If Necessary

# NCS 1517327017

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

JUN 01 2015

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

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>Richardson #3 Release Site</b>	Facility Type: <b>Natural Gas Gathering Line</b>
Surface Owner: <b>Navajo</b>	Mineral Owner: <b>Navajo</b>
API No.	

**LOCATION OF RELEASE**

Unit Letter <b>N</b>	Section <b>2</b>	Township <b>27N</b>	Range <b>13W</b>	Feet from the <b>1313</b>	North <del>South</del> Line	Feet from the <b>2483</b>	East <del>West</del> Line	County <b>San Juan</b>
-------------------------	---------------------	------------------------	---------------------	---------------------------------	--------------------------------	---------------------------------	------------------------------	---------------------------

Latitude 36.600597 Longitude -108.18922

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural	Volume of Release <b>Unknown</b>	Volume Recovered: <b>Unknown</b>
Source of Release: Suspected Internal Corrosion	Date and Hour of Occurrence: <b>3/22/2015 @ 2:50 p.m.</b>	Date and Hour of Discovery: <b>3/22/2015 @ 3:50 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: On March 22, 2015, Enterprise technicians confirmed a leak on Richardson #3 pipeline. The pipeline was isolated, de-pressurized and lock out tag out was applied. The release was a result of internal corrosion. The pipeline was repaired and remediation of the release was completed on April 9, 2015.

Describe Area Affected and Cleanup Action: The contaminant mass was removed by mechanical excavation. The final excavation measured approximately 32 feet long by 8 feet wide by ranging from 14 to 15 feet deep. Approximately 140 cubic yards of hydrocarbon impacted soil was excavated and transported to a New Mexico Oil Conservation approved land farm facility. A third party corrective action report is included with this "Final" C-141.

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

Signature: <i>Jon Fields</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: <u>7/10/15</u>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	
Date: <u>8/27/2015</u>	Phone: (713)381-6684	Attached <input type="checkbox"/>

\* Attach Additional Sheets If Necessary

#NCS 1512030215

30

OIL CONS. DIV DIST. 3

JUN 01 2015

**Richardson Com #3  
Pipeline Release Report  
Section 2, Township 27N, Range 13W  
N36.60057, W108.18922  
San Juan County, New Mexico  
May 5, 2015**

Prepared for:

Enterprise Products Operating, LLC  
614 Reilly Avenue  
Farmington, New Mexico 87401

Prepared by:

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

**Enterprise Products Operating, LLC  
Richardson Com #3  
Pipeline Release Report**

Prepared for:

Enterprise Products Operating, LLC  
614 Reilly Avenue  
Farmington, New Mexico 87401

Prepared by:

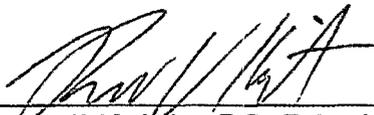
Rule Engineering, LLC  
501 Airport Drive, Suite 205  
Farmington, New Mexico 87401



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**Deborah Watson, PG, Geologist**

Reviewed by:



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**Russell Knight, PG, Principal Hydrogeologist**

**May 5, 2015**

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1 Introduction .....1  
2 Release Summary.....1  
3 NMOCD Site Ranking .....1  
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5 Soil Sampling .....2  
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- Table 1 NMOCD Site Ranking Determination
- Table 2 Soil Sampling Results-VOCs, Benzene, Total BTEX, and TPH

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- Figure 2 Aerial Site Map
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**Appendices**

- Appendix A Executed C-138 Solid Waste Acceptance Form
- Appendix B Photograph Log
- Appendix C Analytical Laboratory Report

### **1 Introduction**

The Enterprise Products Operating, LLC (Enterprise) Richardson Com #3 pipeline release site is located in Unit Letter N, Section 2, Township 27N, Range 13W in San Juan County, New Mexico along County Road 7100. The pipeline release occurred at a ½-inch corrosion hole along the 4-inch well tie for the Richardson Com #3. The release was discovered on March 22, 2015.

On April 9, 2015, the point of release was identified and repaired. The release consisted of an unknown quantity of natural gas and condensate. Site work included repair of the leaking pipeline and excavation of hydrocarbon impacted soils on April 9, 2015.

A topographic map of the location is included as Figure 1 and an aerial site map is included as Figure 2.

### **2 Release Summary**

**Site Name** – Richardson Com #3 Pipeline Release

**Location** – Unit Letter N (SE/SW), Section 2, Township 27N, Range 13W

**Release Latitude/Longitude** – N36.60057 and W108.18922, respectively

**Land Jurisdiction** – Navajo Nation Tribal Trust and Fee Land

**Date Release Discovered** – March 22, 2015

**Agency Notification** – New Mexico Oil Conservation Division (NMOCD)

**Diameter of pipeline** – 4-inch

**Source of Release** – ½ inch corrosion hole along 4-inch pipeline

**Release Contents** – natural gas and condensate

**Release Volume** – unknown

**NMOCD Site Ranking** – 10

**Date of Rule Engineering, LLC (Rule) Field Work** – April 9, 2015

**Subcontractor(s)** – West States Energy Contractors, Inc. (West States)

**Disposal Facility** – Envirotech Land Farm (Permit #NM-01-011)

**Amount of Contaminated Soil Excavated/Disposed** – 140 cubic yards

### **3 NMOCD Site Ranking**

In accordance with NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (August 1993), this site was assigned a ranking score of 10 (Table 1). Based on the ranking score of 10, action levels for remediated soils at the site are as follows: 10 mg/kg benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 1,000 mg/kg total petroleum hydrocarbons (TPH).

Depth to groundwater at the site was estimated to be greater than 100 feet below ground surface (bgs) based on the elevation differential (299 feet) between the release location and the wash in Gallegos Canyon (approximately 2.6 miles to the east).

## **Richardson Com #3 Pipeline Release Report**

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A review was completed of the New Mexico Office of the State Engineer online New Mexico Water Rights Reporting System and no water wells were identified within a 1,000 foot radius of the location. The closest residence is located 2,250 feet east of the location.

Three unnamed washes, all of which ultimately drain to the West Draw, are located approximately 535 feet north-northeast, 559 feet northeast, and 579 feet southeast of the release location.

### **4 Field Activities**

On March 22, 2015, Enterprise personnel responded to the report of a release along the 4-inch well tie for the Richardson Com #3. Enterprise, West States, and Rule personnel were onsite for the initiation of remediation activities on April 9, 2015. West States provided heavy equipment operation and excavated the petroleum impacted materials from within the release area. Rule personnel provided excavation oversight and conducted field screening during remediation activities. On April 9, 2015, based on visual observation and field screening results, the excavation was halted, and Rule personnel collected five confirmation samples (SC-1 through SC-5) from each of the sidewalls and base of the excavation. Repairs were made at the corrosion hole. Approximately 140 cubic yards of hydrocarbon impacted soils were removed from an area of excavation measuring approximately 32 feet x 8 feet x 14 (to 15) feet in depth. Figure 3 provides the locations and results of the soil samples collected.

A copy of the executed C-138 Solid Waste Acceptance Form is included in Appendix A. A photograph log is included in Appendix B.

### **5 Soil Sampling**

Rule collected confirmation soil samples from the sidewalls and base of the excavation. Soil samples SC-1 through SC-5 were collected on April 9, 2015. Each confirmation soil sample (SC-1 through SC-5) is a representative composite of material collected from separate locations within the sample area.

Soil samples collected for laboratory analysis were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico. All samples were analyzed for BTEX per U.S. Environmental Protection Agency (USEPA) Method 8021B and TPH for gasoline range organics (GRO) and diesel range organics (DRO) per USEPA Method 8015D. Laboratory analytical results are summarized in Table 2, and the analytical laboratory report is included in Appendix C.

A portion of each composite soil sample was also field screened for volatile organic compounds (VOCs). Field screening for VOC vapors was conducted with a photo-ionization detector (PID). Before beginning field screening, the PID was calibrated with 100 parts per million (ppm) isobutylene gas. Field screening results are summarized in Table 2.

### 6 Conclusions

The release of unknown quantity of natural gas and condensate occurred at a ½-inch corrosion hole along the 4-inch well tie for the Richardson Com #3. Remedial activities included excavation of 140 cubic yards of hydrocarbon impacted soils along the pipeline. Five confirmation soil samples were collected from the sidewalls and base of the excavation on April 9, 2015, for laboratory analysis of BTEX and TPH. The final excavation measured approximately 32 feet x 8 feet x 14 (to 15) feet in depth.

Laboratory analytical results for soil confirmation samples (SC-1 through SC-5) reported benzene and total BTEX concentrations below the NMOCD action levels of 10 mg/kg and 50 mg/kg, respectively. All soil confirmation samples reported TPH concentrations below the NMOCD action level of 1,000 mg/kg. Action levels are based on a NMOCD site ranking of 10.

Based on laboratory analytical results, no further work is recommended.

### 7 Closure and Limitations

This report has been prepared for the exclusive use of Enterprise and is subject to the terms, conditions and limitations stated in Rule's proposal, the report, and Rule's Service Agreement with Enterprise. All work has been performed in accordance with generally accepted professional environmental consulting practices. No other warranty is expressed or implied.

# Tables

**Table 1. NMOCD Site Ranking Determination  
 Richardson Com #3 Pipeline Release  
 San Juan County, New Mexico  
 Enterprise Products Operating, LLC**

Ranking Criteria	Ranking Score	Site-Based Ranking Score	Basis for Determination	Data Sources
<b>Depth to Groundwater</b>				
<50 feet	20	0	Elevation differential between location and wash in Gallegos Canyon east of the location is 299 feet. Location is at a higher elevation. Cathodic report for Navajo D #1 (30-045-06868) located 5,094 feet northeast of location and at a lower elevation reports depth to groundwater at 180 feet.	NMOCD Online database, Hugh Lake Quadrangle, Google Earth, and Visual Inspection
50-99 feet	10			
>100 feet	0			
<b>Wellhead Protection Area</b>				
<1,000 feet from a water source, or <200 feet from private domestic water source	20 (Yes)	0	No water source or recorded water wells within 1,000 feet radius of location.	NMOSE NMWRRS, Hugh Lake Quadrangle, Google Earth, and Visual Inspection
	0 (No)			
<b>Distance to Surface Water Body</b>				
<200 horizontal feet	20	10	Unnamed washes located at 535 feet north-northwest, 559 feet northeast, and 579 feet southeast of the location. Unnamed washes drain to the West Draw and then to wash in Gallegos Canyon.	Hugh Lake Quadrangle, Google Earth, and Visual Inspection
200 to 1,000 horizontal feet	10			
>1,000 horizontal feet	0			
<b>Site Based Total Ranking Score</b>		<b>10</b>		

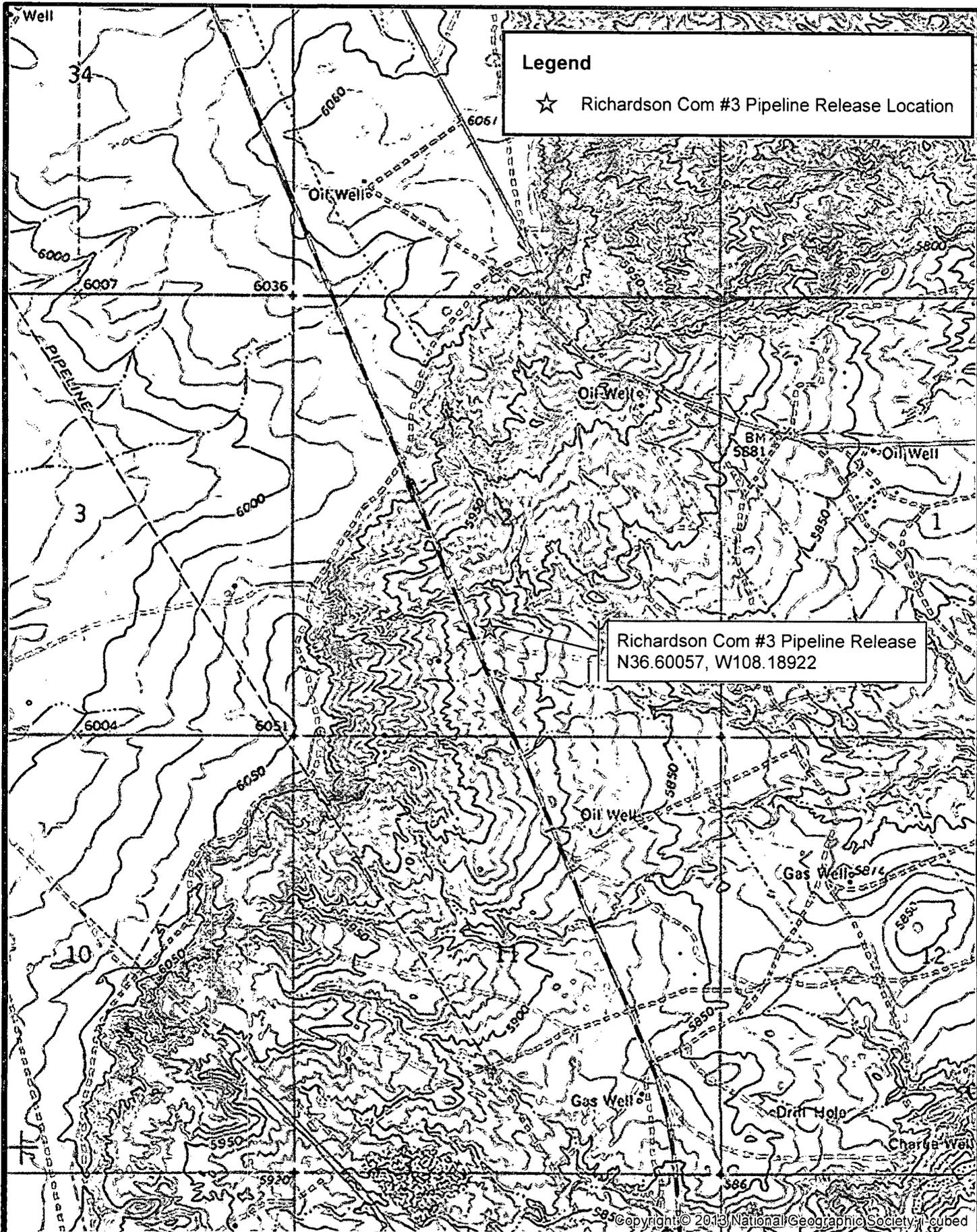
**Table 2. Soil Sampling Results-VOCs, Benzene, Total BTEX, and TPH  
Richardson Com #3 Pipeline Release  
San Juan County, New Mexico  
Enterprise Products Operating, LLC**

Sample ID	Date	Location	Sample Depth (ft bgs)	VOCs (PID) (ppm)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH-GRO	TPH-DRO
							(mg/kg)	
<b>NMOCD Action Levels*</b>				<b>100</b>	<b>10</b>	<b>50</b>	<b>1,000</b>	
SC-1	Apr 09, 15	North Wall	0 to 15	49.5	<0.050	<0.249	<5.0	<9.6
SC-2	Apr 09, 15	South Wall	0 to 15	91.4	<0.049	<0.245	<4.9	12
SC-3	Apr 09, 15	East Wall	0 to 14	43.6	<0.049	<0.245	<4.9	<10
SC-4	Apr 09, 15	West Wall	0 to 15	42.3	<0.047	<0.236	<4.7	14
SC-5	Apr 09, 15	Base	14 to 15	<b>2,562</b>	<0.050	6.4	110	710

Notes: VOCs - volatile organic compounds  
 PID - photo-ionization detector  
 ft bgs - feet below ground surface  
 ppm - parts per million  
 mg/kg - milligrams/kilograms

BTEX - benzene, toluene, ethylbenzene, and xylenes  
 TPH-GRO - total petroleum hydrocarbons-gasoline range organics  
 TPH-DRO - total petroleum hydrocarbons-diesel range organics  
 \*NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (1993)

# Figures

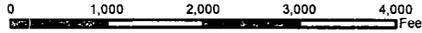


**Legend**

☆ Richardson Com #3 Pipeline Release Location

Richardson Com #3 Pipeline Release  
 N36.60057, W108.18922

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



**Location**  
 N-2-27N-13W  
 N36.60057, W108.18922  
 San Juan County, New Mexico  
 Date: 5/1/2015 File: 150427 Topo Map

**Topographic Map**  
 Enterprise Products  
 Richardson Com #3  
 Pipeline Release

Figure: 1

**Legend**

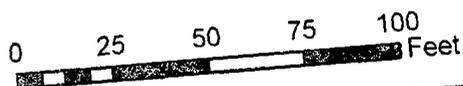
☆ Richardson Com #3 Pipeline Release Location



HWY 302

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

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



**Location**  
N-2-27N-13W  
N36.60057, W108.18922  
San Juan County, New Mexico

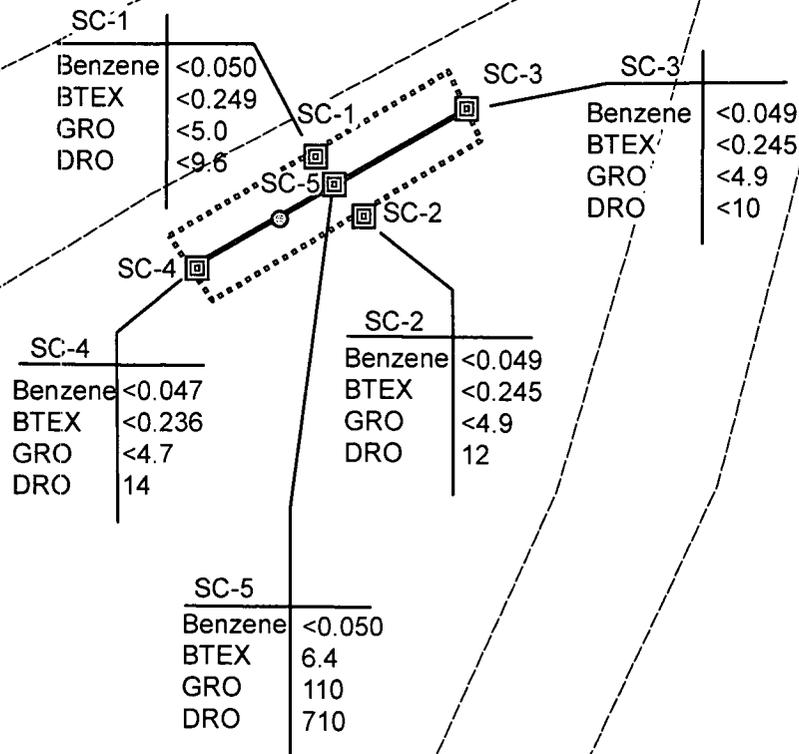
**Aerial Site Map**  
Enterprise Products  
Richardson Com #3  
Pipeline Release

Date: 5/1/2015 File: 150427 Aerial Map

**Legend**

- Release Point
- ▣ Soil Sample
- Exposed Pipeline
- ..... Excavation
- - - - Road

BTEX= benzene, toluene, ethylbenzene, and xylenes  
 GRO= gasoline range organics  
 DRO= diesel range organics  
 Samples collected April 9, 2015.  
 Results in mg/kg.



Appendix A  
Executed C-138 Solid Waste  
Acceptance Form

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

State of New Mexico  
Energy Minerals and Natural Resources 97257-0701  
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. <b>Generator Name and Address:</b> Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401
2. <b>Originating Site:</b> Richardson #3 Pipeline Release Site
3. <b>Location of Material (Street Address, City, State or ULSTR):</b> UL N Section 2 T27N, R13W; 36.600598, -108.189110
4. <b>Source and Description of Waste:</b> Hydrocarbon impacted soil associated with the remediation of a natural gas pipeline release.
5. <b>Estimated Volume</b> <u>50</u> yd <sup>3</sup> bbls <b>Known Volume</b> (to be entered by the operator at the end of the haul) <u>140</u> yd <sup>3</sup> bbls
5. <b>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. <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> <u>4-9-15</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. <u>Kendra Runung</u> representative for <u>Envirotech, Inc.</u> do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
6. <b>Transporter:</b> To be determined. <u>HBL, Doug Foutz</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

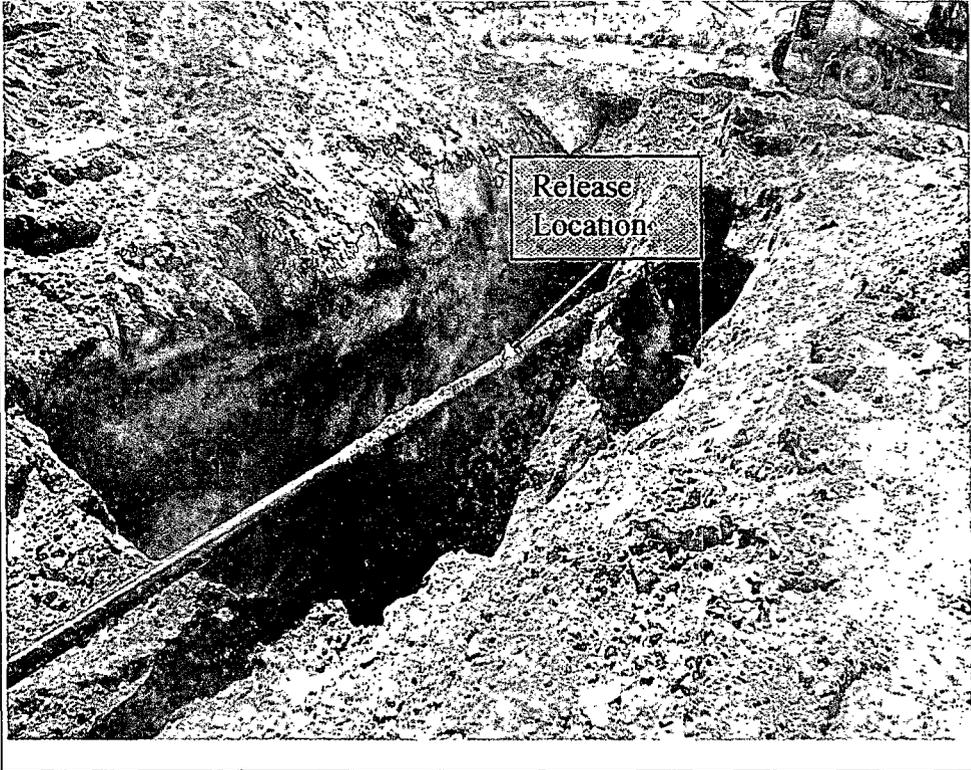
DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Kendra Runung TITLE: Waste Coordinator DATE: 4/9/15  
SIGNATURE: Kendra Runung TELEPHONE NO.: (505) 632-0615  
Surface Waste Management Facility Authorized Agent

# Appendix B

## Photograph Log

**Photograph Log**  
**Richardson Com #3 Pipeline Release**  
**Enterprise Products**

<p>Photograph #1</p>	
<p>Client: Enterprise Products</p>	
<p>Site Name: Richardson Com #3 Pipeline Release</p>	
<p>Date Photo Taken: April 9, 2015</p>	
<p>Location: N36.60057, W108.18922  N-02-27N-13W San Juan County, New Mexico</p>	
<p>Photo Taken by: Deborah Watson</p>	<p>Description: facing S, looking at excavation and exposed pipeline.</p>

<p>Photograph #2</p>	
<p>Client: Enterprise Products</p>	
<p>Site Name: Richardson Com #3 Pipeline Release</p>	
<p>Date Photo Taken: April 9, 2015</p>	
<p>Location: N36.60057, W108.18922  N-02-27N-13W San Juan County, New Mexico</p>	
<p>Photo Taken by: Deborah Watson</p>	<p>Description: facing SW, looking at excavation following removal of hydrocarbon impacted soils. Final area of excavation measured 32 feet x 8 feet x 14 (to 15) feet.</p>

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



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

April 14, 2015

Deborah Watson

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

RE: Enterprise Richardson Com #3 Pipeline Release

OrderNo.: 1504454

Dear Deborah Watson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 4/10/2015 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 white background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Rule Engineering LLC

**Client Sample ID:** SC-1

**Project:** Enterprise Richardson Com #3 Pipeline

**Collection Date:** 4/9/2015 11:45:00 AM

**Lab ID:** 1504454-001

**Matrix:** SOIL

**Received Date:** 4/10/2015 6:00:00 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	9.6		mg/Kg	1	4/13/2015 11:31:37 AM	18609
Surr: DNOP	105	63.5-128		%REC	1	4/13/2015 11:31:37 AM	18609
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/11/2015 2:04:51 PM	18615
Surr: BFB	90.6	80-120		%REC	1	4/11/2015 2:04:51 PM	18615
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	4/11/2015 2:04:51 PM	18615
Toluene	ND	0.050		mg/Kg	1	4/11/2015 2:04:51 PM	18615
Ethylbenzene	ND	0.050		mg/Kg	1	4/11/2015 2:04:51 PM	18615
Xylenes, Total	ND	0.099		mg/Kg	1	4/11/2015 2:04:51 PM	18615
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	4/11/2015 2:04:51 PM	18615

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-2

Project: Enterprise Richardson Com #3 Pipeline

Collection Date: 4/9/2015 1:00:00 PM

Lab ID: 1504454-002

Matrix: SOIL

Received Date: 4/10/2015 6:00:00 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)	12	9.9		mg/Kg	1	4/13/2015 12:35:35 PM	18609
Surr: DNOP	97.1	63.5-128		%REC	1	4/13/2015 12:35:35 PM	18609
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/11/2015 3:30:57 PM	18615
Surr: BFB	90.7	80-120		%REC	1	4/11/2015 3:30:57 PM	18615
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.049		mg/Kg	1	4/11/2015 3:30:57 PM	18615
Toluene	ND	0.049		mg/Kg	1	4/11/2015 3:30:57 PM	18615
Ethylbenzene	ND	0.049		mg/Kg	1	4/11/2015 3:30:57 PM	18615
Xylenes, Total	ND	0.098		mg/Kg	1	4/11/2015 3:30:57 PM	18615
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	4/11/2015 3:30:57 PM	18615

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

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

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1504454

Date Reported: 4/14/2015

**CLIENT:** Rule Engineering LLC

**Client Sample ID:** SC-3

**Project:** Enterprise Richardson Com #3 Pipeline

**Collection Date:** 4/9/2015 1:35:00 PM

**Lab ID:** 1504454-003

**Matrix:** SOIL

**Received Date:** 4/10/2015 6:00:00 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	4/13/2015 12:57:09 PM	18609
Surr: DNOP	105	63.5-128		%REC	1	4/13/2015 12:57:09 PM	18609
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/11/2015 3:59:45 PM	18615
Surr: BFB	89.1	80-120		%REC	1	4/11/2015 3:59:45 PM	18615
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.049		mg/Kg	1	4/11/2015 3:59:45 PM	18615
Toluene	ND	0.049		mg/Kg	1	4/11/2015 3:59:45 PM	18615
Ethylbenzene	ND	0.049		mg/Kg	1	4/11/2015 3:59:45 PM	18615
Xylenes, Total	ND	0.098		mg/Kg	1	4/11/2015 3:59:45 PM	18615
Surr: 4-Bromofluorobenzene	101	80-120		%REC	1	4/11/2015 3:59:45 PM	18615

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

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



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1504454

Date Reported: 4/14/2015

CLIENT: Rule Engineering LLC

Client Sample ID: SC-5

Project: Enterprise Richardson Com #3 Pipeline

Collection Date: 4/9/2015 1:48:00 PM

Lab ID: 1504454-005

Matrix: SOIL

Received Date: 4/10/2015 6:00:00 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)	710	10		mg/Kg	1	4/13/2015 1:39:48 PM	18609
Surr: DNOP	103	63.5-128		%REC	1	4/13/2015 1:39:48 PM	18609
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	110	5.0		mg/Kg	1	4/11/2015 4:57:17 PM	18615
Surr: BFB	640	80-120	S	%REC	1	4/11/2015 4:57:17 PM	18615
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	4/11/2015 4:57:17 PM	18615
Toluene	0.54	0.050		mg/Kg	1	4/11/2015 4:57:17 PM	18615
Ethylbenzene	0.63	0.050		mg/Kg	1	4/11/2015 4:57:17 PM	18615
Xylenes, Total	5.2	0.10		mg/Kg	1	4/11/2015 4:57:17 PM	18615
Surr: 4-Bromofluorobenzene	155	80-120	S	%REC	1	4/11/2015 4:57:17 PM	18615

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504454

14-Apr-15

**Client:** Rule Engineering LLC  
**Project:** Enterprise Richardson Com #3 Pipeline Release

Sample ID	<b>MB-18609</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18609</b>	RunNo:	<b>25459</b>					
Prep Date:	<b>4/10/2015</b>	Analysis Date:	<b>4/13/2015</b>	SeqNo:	<b>753898</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	12		10.00		123	63.5	128			

Sample ID	<b>LCS-18609</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18609</b>	RunNo:	<b>25459</b>					
Prep Date:	<b>4/10/2015</b>	Analysis Date:	<b>4/13/2015</b>	SeqNo:	<b>754238</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	97.8	67.8	130			
Surr: DNOP	5.6		5.000		113	63.5	128			

Sample ID	<b>1504454-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>18609</b>	RunNo:	<b>25459</b>					
Prep Date:	<b>4/10/2015</b>	Analysis Date:	<b>4/13/2015</b>	SeqNo:	<b>754259</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	50.81	0	98.6	29.2	176			
Surr: DNOP	5.9		5.081		117	63.5	128			

Sample ID	<b>1504454-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>18609</b>	RunNo:	<b>25459</b>					
Prep Date:	<b>4/10/2015</b>	Analysis Date:	<b>4/13/2015</b>	SeqNo:	<b>754260</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	9.7	48.54	0	101	29.2	176	2.26	23	
Surr: DNOP	5.8		4.854		119	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1504454  
14-Apr-15

Client: Rule Engineering LLC  
Project: Enterprise Richardson Com #3 Pipeline Release

Sample ID	<b>MB-18613</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18613</b>	RunNo:	<b>25449</b>					
Prep Date:	<b>4/10/2015</b>	Analysis Date:	<b>4/11/2015</b>	SeqNo:	<b>753290</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	890		1000		88.8	80	120			

Sample ID	<b>LCS-18613</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18613</b>	RunNo:	<b>25449</b>					
Prep Date:	<b>4/10/2015</b>	Analysis Date:	<b>4/11/2015</b>	SeqNo:	<b>753291</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	960		1000		96.3	80	120			

Sample ID	<b>MB-18615</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18615</b>	RunNo:	<b>25449</b>					
Prep Date:	<b>4/10/2015</b>	Analysis Date:	<b>4/11/2015</b>	SeqNo:	<b>753308</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	910		1000		90.7	80	120			

Sample ID	<b>LCS-18615</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18615</b>	RunNo:	<b>25449</b>					
Prep Date:	<b>4/10/2015</b>	Analysis Date:	<b>4/11/2015</b>	SeqNo:	<b>753309</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	102	64	130			
Surr: BFB	980		1000		97.8	80	120			

Sample ID	<b>1504454-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>18615</b>	RunNo:	<b>25449</b>					
Prep Date:	<b>4/10/2015</b>	Analysis Date:	<b>4/11/2015</b>	SeqNo:	<b>753311</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	4.9	24.70	0	113	47.9	144			
Surr: BFB	970		988.1		98.4	80	120			

Sample ID	<b>1504454-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>18615</b>	RunNo:	<b>25449</b>					
Prep Date:	<b>4/10/2015</b>	Analysis Date:	<b>4/11/2015</b>	SeqNo:	<b>753312</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	4.9	24.70	0	116	47.9	144	3.08	29.9	
Surr: BFB	970		988.1		97.7	80	120	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 Not In Range                             |
| 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#: 1504454

14-Apr-15

**Client:** Rule Engineering LLC  
**Project:** Enterprise Richardson Com #3 Pipeline Release

Sample ID	<b>MB-18613</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18613</b>	RunNo:	<b>25449</b>					
Prep Date:	<b>4/10/2015</b>	Analysis Date:	<b>4/11/2015</b>	SeqNo:	<b>753332</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			

Sample ID	<b>LCS-18613</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18613</b>	RunNo:	<b>25449</b>					
Prep Date:	<b>4/10/2015</b>	Analysis Date:	<b>4/11/2015</b>	SeqNo:	<b>753333</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		107	80	120			

Sample ID	<b>MB-18615</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>18615</b>	RunNo:	<b>25449</b>					
Prep Date:	<b>4/10/2015</b>	Analysis Date:	<b>4/11/2015</b>	SeqNo:	<b>753339</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-18615</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>18615</b>	RunNo:	<b>25449</b>					
Prep Date:	<b>4/10/2015</b>	Analysis Date:	<b>4/11/2015</b>	SeqNo:	<b>753340</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	76.6	128			
Toluene	0.97	0.050	1.000	0	97.5	75	124			
Ethylbenzene	1.0	0.050	1.000	0	104	79.5	126			
Xylenes, Total	3.2	0.10	3.000	0	106	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		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 Not In Range
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: **RULE ENGINEERING LL** Work Order Number: **1504454** ReptNo: **1**

Received by/date: AK 04/10/15

Logged By: **Lindsay Mangin** 4/10/2015 6:00:00 AM *Lindsay Mangin*

Completed By: **Lindsay Mangin** 4/10/2015 7:00:02 AM *Lindsay Mangin*

Reviewed By: CS 04/10/15

**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: <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	2.8	Good	Yes			

# Chain-of-Custody Record

Client: Rule Engineering U.C.

Mailing Address: 501 Airport Drive  
Suite 205 Farmington NM 87401

Phone #: 505 860 2712

email or Fax#: dwatson@ruleengineering.com

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

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

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

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

Project Name:  
Enterprise  
Richardson Com #3 Pipeline Release

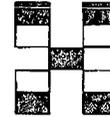
Project #:  
 -

Project Manager:  
Deborah Watson

Sampler: D Watson

On Ice:       Yes       No

Sample Temperature: 2.8



## 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 (Gas only)	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)	
4-9-15	1145	soil	SC-1	1-4oz glass	Cold	1504454-001	X	X	X										
4-9-15	1300	soil	SC-2	1-4oz glass	Cold	-002	X	X	X										
4-9-15	1335	soil	SC-3	1-4oz glass	Cold	-003	X	X	X										
4-9-15	1452	soil	SC-4	1-4oz glass	Cold	-004	X	X	X										
4-9-15	1348	soil	SC-5	1-4oz glass	Cold	-005	X	X	X										

Date: 4-9-15 Time: 1730 Relinquished by: Deborah Watson

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished by: \_\_\_\_\_

Received by: [Signature] Date: 04/15/15 Time: 1600

Received by: [Signature] Date: \_\_\_\_\_ Time: \_\_\_\_\_

Remarks: Bill to Enterprise  
Attention: Tom Long

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

JUN 29 2015

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

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: Trunk 3C	Facility Type: Natural Gas Gathering Pipeline

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

**LOCATION OF RELEASE**

Unit Letter B	Section 32	Township 29N	Range 12W	Feet from the 133	North South Line	Feet from the 2293	East West Line	County San Juan
------------------	---------------	-----------------	--------------	-------------------------	---------------------	--------------------------	-------------------	--------------------

Latitude 36.68994 Longitude -108.12146

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release 125.37 MCF Gas; 3-5 BBLs Fluids	Volume Recovered: None
Source of Release: Internal corrosion	Date and Hour of Occurrence: 5/12/15 @ 12:45 p.m.	Date and Hour of Discovery: 5/12/15 @ 1:40 p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy Notification - Cory Smith NMOCD	
By Whom? Thomas Long	Date and Time 5/21/2015 @ 2:30 p.m. by phone	
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 May 12, 2015 Enterprise technicians discovered a pipeline release on Trunk 3C during a routine pipeline patrol. The line was isolated, blown down, depressurized, locked out and tagged out. The release was a result of internal corrosion. The pipeline was repaired and remediation of the release was completed on May 21, 2015.

Describe Area Affected and Cleanup Action: The contaminant mass was removed by mechanical excavation. The final excavation measured approximately 20 feet long by 17 feet wide by 7.5 feet deep. Approximately 68 cubic yards of hydrocarbon impacted soil was excavated and transported to a New Mexico Oil Conservation approved land farm facility. A third party corrective action report is included with this "Final" C-141.

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

Signature: <i>Jon Fields</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: 8/5/15	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 6-15-2015	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

#NCS 1514151763

27

OIL CONS. DIV DIST. 3

JUN 29 2015

**Trunk 3C**  
**Pipeline Release Report**  
Section 32, Township 29N, Range 12W  
N36.68994, W108.12146  
San Juan County, New Mexico  
May 28, 2015

Prepared for:

Enterprise Products Operating, LLC  
614 Reilly Avenue  
Farmington, New Mexico 87401

Prepared by:

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

# Enterprise Products Operating, LLC Trunk 3C Pipeline Release Report

Prepared for:

Enterprise Products Operating, LLC  
614 Reilly Avenue  
Farmington, New Mexico 87401

Prepared by:

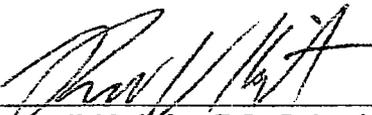
Rule Engineering, LLC  
501 Airport Drive, Suite 205  
Farmington, New Mexico 87401



---

Deborah Watson, PG, Geologist

Reviewed by:



---

Russell Knight, PG, Principal Hydrogeologist

May 28, 2015

### 1 Introduction

The Enterprise Products Operating, LLC (Enterprise) Trunk 3C pipeline release site is located in Unit Letter B, Section 32, Township 29N, Range 12W in San Juan County, New Mexico. The pipeline release occurred at a corrosion hole along the 16-inch Trunk 3C pipeline. The release was discovered on May 12, 2015.

On May 21, 2015, the point of release was identified and repaired. The release consisted of an unknown quantity of natural gas and condensate. Site work included repair of the leaking pipeline and excavation of hydrocarbon impacted soils on May 21, 2015.

A topographic map of the location is included as Figure 1 and an aerial site map is included as Figure 2.

### 2 Release Summary

**Site Name** – Trunk 3C Pipeline Release

**Location** – Unit Letter B (NW/NE), Section 32, Township 29N, Range 12W

**Release Latitude/Longitude** – N36.68994 and W108.12146, respectively

**Land Jurisdiction** – Private

**Date Release Discovered** – May 12, 2015

**Agency Notification** – New Mexico Oil Conservation Division (NMOCD)

**Diameter of pipeline** – 16-inch

**Source of Release** – corrosion hole along 16-inch pipeline

**Release Contents** – natural gas and condensate

**Release Volume** – unknown

**NMOCD Site Ranking** – 20

**Date of Rule Engineering, LLC (Rule) Field Work** – May 21, 2015

**Subcontractor(s)** – West States Energy Contractors, Inc. (West States)

**Disposal Facility** – Envirotech Land Farm (Permit #NM-01-011)

**Amount of Contaminated Soil Excavated/Disposed** – 68 cubic yards

### 3 NMOCD Site Ranking

In accordance with NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (August 1993), this site was assigned a ranking score of 20 (Table 1). Based on the ranking score of 20, action levels for remediated soils at the site are as follows: 10 mg/kg benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 100 mg/kg total petroleum hydrocarbons (TPH).

Depth to groundwater at the site was estimated to be between 91 and 98 feet below ground surface (bgs) based on the elevation differential (91 feet) between the release location and the wash in Gallegos Canyon (approximately 0.6 miles to the east) and the elevation differential (98 feet) between the release location and the San Juan River (approximately 0.65 miles to the northwest).

## **Trunk 3C Pipeline Release Report**

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A review was completed of the New Mexico Office of the State Engineer online New Mexico Water Rights Reporting System and no water wells were identified within a 1,000 feet radius of the location. Hammond Ditch is located approximately 1,120 feet north of the location.

An unnamed wash is located approximately 780 feet northwest of the location and drains to the San Juan River. An additional surface water feature, an unnamed wash, is located 1,060 feet northwest of the location and drains to the wash in Gallegos Canyon and then to the San Juan River.

### **4 Field Activities**

On May 12, 2015, Enterprise personnel discovered a pipeline leak along the 16-inch Trunk 3C pipeline. Enterprise, West States, and Rule personnel were onsite for remediation activities on May 21, 2015. West States provided heavy equipment operation and excavated the petroleum impacted materials from within the release area. Rule personnel provided excavation oversight and conducted field screening during remediation activities. On May 21, 2015, based on visual observation and field screening results, the excavation was halted, and Rule personnel collected five confirmation samples (SC-1 through SC-5) from each of the sidewalls and base of the excavation. Repairs were made at the corrosion hole. Approximately 68 cubic yards of hydrocarbon impacted soils were removed from an area of excavation measuring approximately 20 feet x 17 feet x 7.5 feet in depth. Figure 3 provides the locations and results of the soil samples collected.

A copy of the executed C-138 Solid Waste Acceptance Form is included in Appendix A. A photograph log is included in Appendix B.

### **5 Soil Sampling**

Rule collected confirmation soil samples from the sidewalls and base of the excavation. Soil samples SC-1 through SC-5 were collected on May 21, 2015. Each confirmation soil sample (SC-1 through SC-5) is a representative composite of material collected from five separate locations within the sample area.

Soil samples collected for laboratory analysis were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico. All samples were analyzed for BTEX per U.S. Environmental Protection Agency (USEPA) Method 8021B and TPH for gasoline range organics (GRO) and diesel range organics (DRO) per USEPA Method 8015D. Laboratory analytical results are summarized in Table 2, and the analytical laboratory report is included in Appendix C.

A portion of each composite soil sample was also field screened for volatile organic compounds (VOCs). Field screening for VOC vapors was conducted with a photoionization detector (PID). Before beginning field screening, the PID was calibrated with

## Trunk 3C Pipeline Release Report

---

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## **Trunk 3C Pipeline Release Report**

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100 parts per million (ppm) isobutylene gas. Field screening results are summarized in Table 2.

### **6 Conclusions**

The release of unknown quantity of natural gas and condensate occurred at corrosion hole along the 16-inch Trunk 3C pipeline. Remedial activities included excavation of 68 cubic yards of hydrocarbon impacted soils along the pipeline. Five confirmation soil samples were collected from the sidewalls and base of the excavation on May 21, 2015, for laboratory analysis of BTEX and TPH. The final excavation measured approximately 20 feet x 17 feet x 7.5 feet in depth.

Laboratory analytical results for soil confirmation samples (SC-1 through SC-5) reported benzene and total BTEX concentrations below the NMOCD action levels of 10 mg/kg and 50 mg/kg, respectively. All soil confirmation samples reported TPH concentrations below the NMOCD action level of 100 mg/kg. Action levels are based on a NMOCD site ranking of 20.

Based on laboratory analytical results, no further work is recommended.

### **7 Closure and Limitations**

This report has been prepared for the exclusive use of Enterprise and is subject to the terms, conditions and limitations stated in Rule's proposal, the report, and Rule's Service Agreement with Enterprise. All work has been performed in accordance with generally accepted professional environmental consulting practices. No other warranty is expressed or implied.

**Table 1. NMOCD Site Ranking Determination  
Trunk 3C Pipeline Release  
San Juan County, New Mexico  
Enterprise Products Operating, LLC**

Ranking Criteria	Ranking Score	Site-Based Ranking Score	Basis for Determination	Data Sources
<b>Depth to Groundwater</b>				
<50 feet	20	10	Elevation differential between location and wash in Gallegos Canyon east of the location is 91 feet. Location is at a higher elevation. Elevation differential between location and the San Juan River is 98 feet. Location is at a higher elevation.	NMOCD Online database, Horn Canyon Quadrangle, Google Earth, and Visual Inspection
50-99 feet	10			
>100 feet	0			
<b>Wellhead Protection Area</b>				
<1,000 feet from a water source, or <200 feet from private domestic water source	20 (Yes)	0	No water source or recorded water wells within 1,000 feet radius of location. Hammond Ditch is located 1,120 feet north of the location.	NMOSE NMWRRS, Horn Canyon Quadrangle, Google Earth, and Visual Inspection
	0 (No)			
<b>Distance to Surface Water Body</b>				
<200 horizontal feet	20	10	Unnamed wash located at 780 feet northwest of location and drains to the San Juan River. An additional unnamed wash is located 1,060 feet northwest of the location and drains to the wash in Gallegos Canyon and then to the San Juan River. The San Juan River is located 0.65 miles northwest of the location.	Horn Canyon Quadrangle, Google Earth, and Visual Inspection
200 to 1,000 horizontal feet	10			
>1,000 horizontal feet	0			
<b>Site Based Total Ranking Score</b>		<b>20</b>		

**Table 2. Soil Sampling Results-VOCs, Benzene, Total BTEX, and TPH  
Trunk 3C Pipeline Release  
San Juan County, New Mexico  
Enterprise Products Operating, LLC**

Sample ID	Date	Location	Sample Depth (ft bgs)	VOCs (PID) (ppm)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH-GRO	TPH-DRO
							(mg/kg)	
<b>NMOCD Action Levels*</b>				<b>100</b>	<b>10</b>	<b>50</b>	<b>100</b>	
SC-1	May 21, 15	South Wall	0 to 7.5	3.5	<0.032	<0.161	<3.2	<10
SC-2	May 21, 15	West Wall	0 to 7.5	13.5	0.038	4.8	23	<9.7
SC-3	May 21, 15	East Wall	0 to 7.5	15.3	<0.038	<0.191	<3.8	<9.7
SC-4	May 21, 15	North Wall	0 to 7.5	21.3	<0.030	<0.151	<3.0	<9.8
SC-5	May 21, 15	Base	7.5	13.5	<0.031	<0.156	<3.1	<9.7

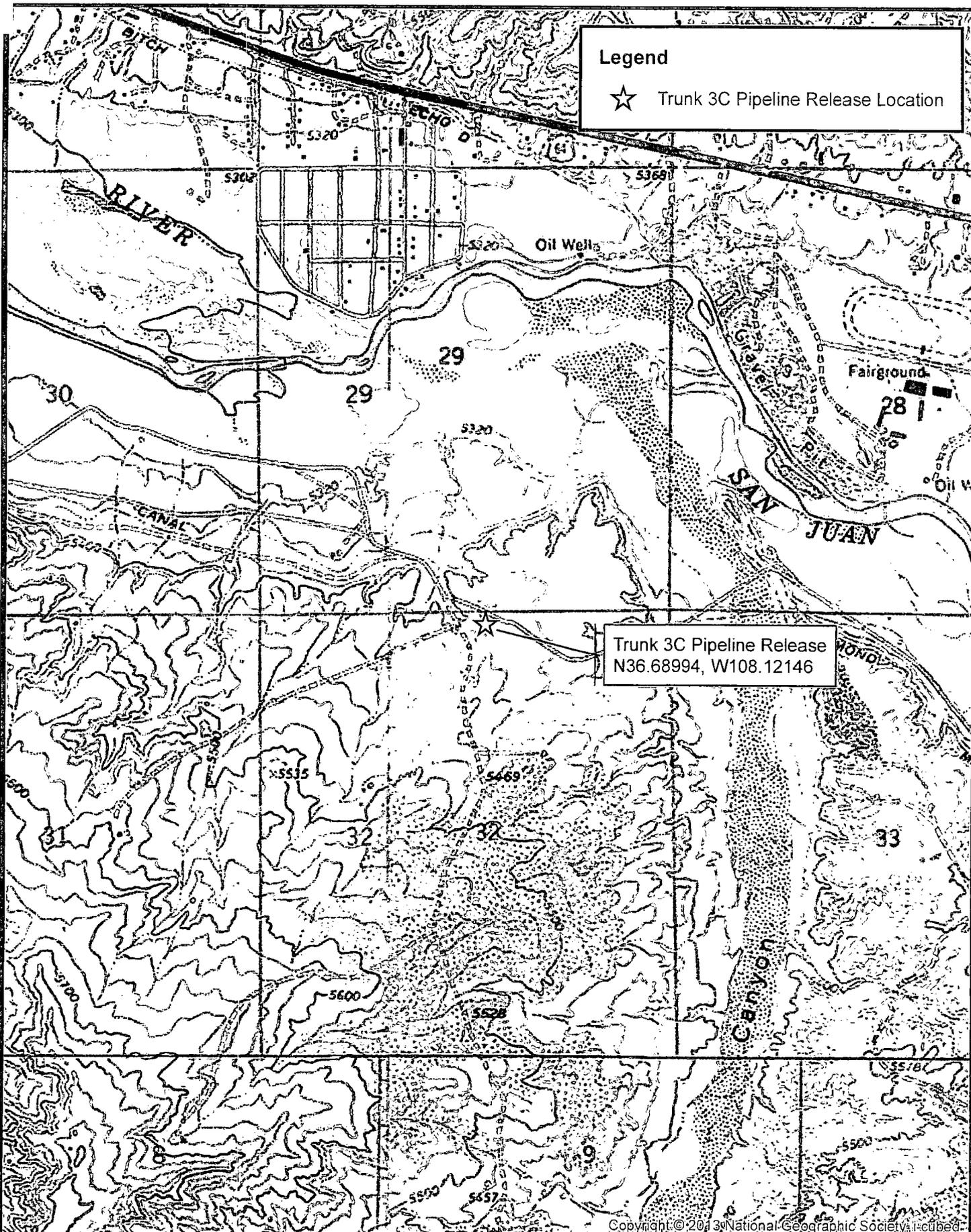
Notes: VOCs - volatile organic compounds  
 PID - photo-ionization detector  
 ft bgs - feet below ground surface  
 ppm - parts per million  
 mg/kg - milligrams/kilograms

BTEX - benzene, toluene, ethylbenzene, and xylenes  
 TPH-GRO - total petroleum hydrocarbons-gasoline range organics  
 TPH-DRO - total petroleum hydrocarbons-diesel range organics  
 \*NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (1993)

# Figures

Legend

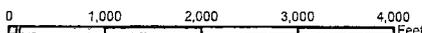
★ Trunk 3C Pipeline Release Location



Trunk 3C Pipeline Release  
N36.68994, W108.12146

Copyright © 2013 National Geographic Society, Inc.

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



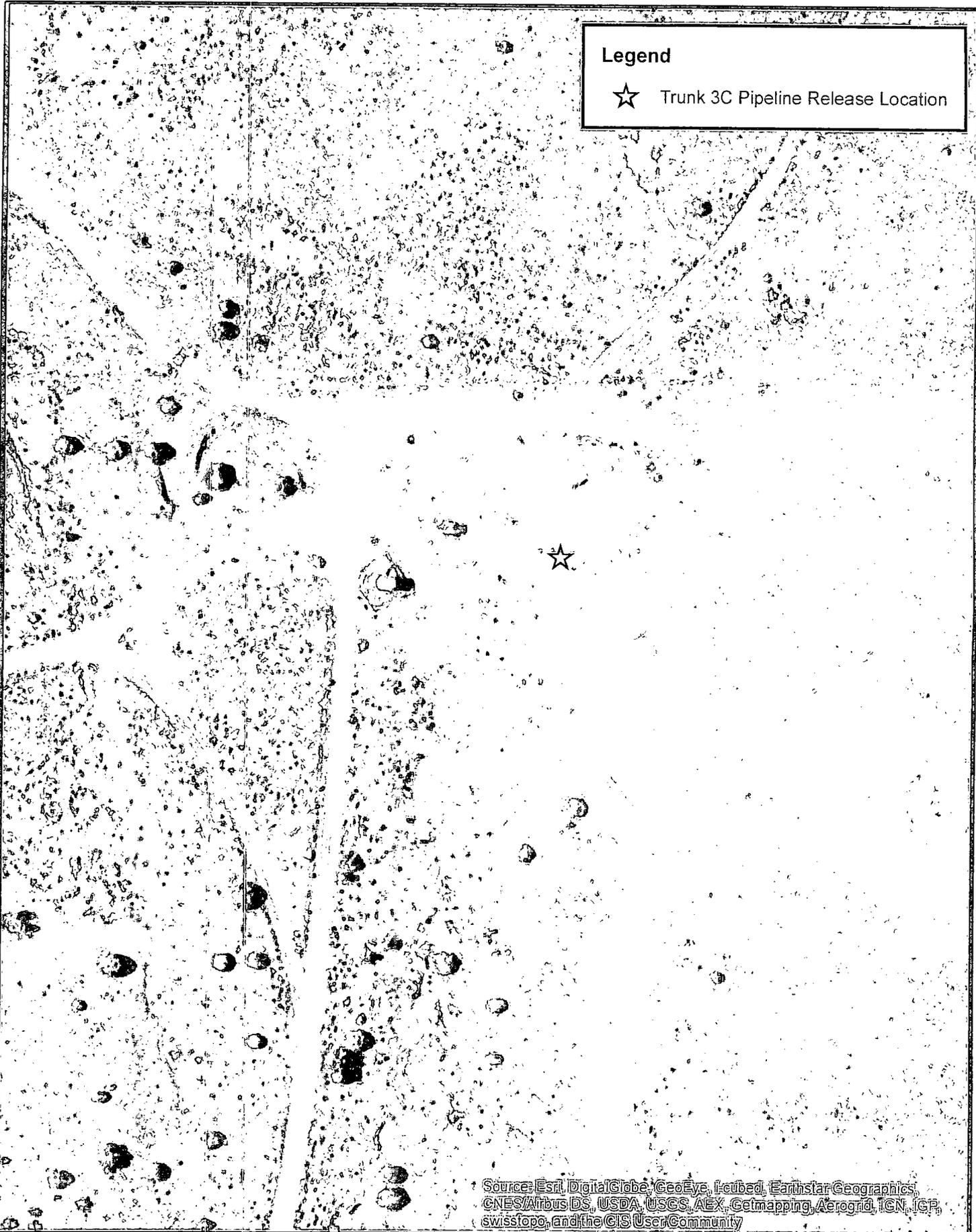
**Location**  
B-32-29N-12W  
N36.68994, W108.12146  
San Juan County, New Mexico  
Date: 5/26/2015 | File: 150526 Topo Map

**Topographic Map**  
Enterprise Products  
Trunk 3C  
Pipeline Release

Figure: 1

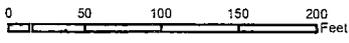
**Legend**

★ Trunk 3C Pipeline Release Location



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

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



**Location**  
B-32-29N-12W  
N36.68994, W108.12146  
San Juan County, New Mexico

**Aerial Map**  
Enterprise Products  
Trunk 3C  
Pipeline Release

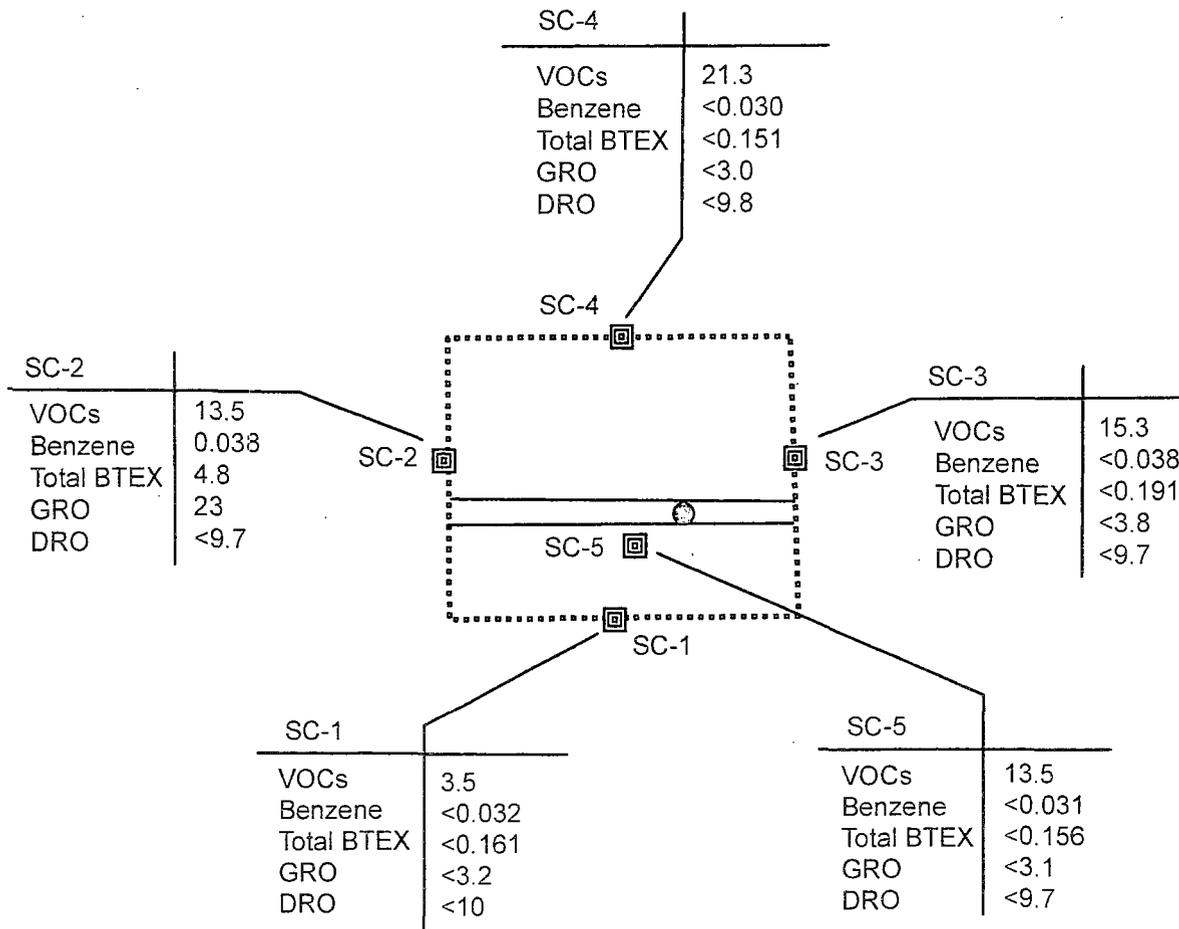
Date: 5/26/2015 File: 150526 Aerial Map

Figure: 2

**Legend**

-  Soil Sample
-  Trunk 3C Pipeline Release Location
-  Pipeline
-  Excavation

Notes:  
 VOCs= volatile organic compounds  
 BTEX= benzene, toluene, ethylbenzene, and xylenes  
 GRO= gasoline range organics  
 DRO= diesel range organics  
 VOC results in ppm.  
 All other results in mg/kg.  
 Samples collected May, 2015.



Appendix A  
Executed C-138 Solid Waste  
Acceptance Form

# Appendix B

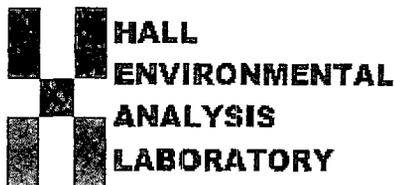
## Photograph Log

**Photograph Log**  
**Truck 3C Pipeline Release**  
**Enterprise Products**

Photograph #1	
Client: Enterprise Products	
Site Name: Trunk 3C Pipeline Release	
Date Photo Taken: May 21, 2015	
Location: N36.68994, W108.12146  B-32-29N-12W San Juan County, New Mexico	
Photo Taken by: Deborah Watson	Description: facing S, looking at excavation and exposed pipeline.

Photograph #2	
Client: Enterprise Products	
Site Name:  Trunk 3C Pipeline Release	
Date Photo Taken: May 21, 2015	
Location: N36.68994, W108.12146  B-32-29N-12W San Juan County, New Mexico	
Photo Taken by: Deborah Watson	Description: facing WSW, looking at excavation following removal of hydrocarbon impacted soils. Final area of excavation measured 20 feet x 17 feet x 7.5 feet in depth.

Appendix C  
Analytical Laboratory Report



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

May 26, 2015

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

RE: Trunk 3C Pipeline

OrderNo.: 1505994

Dear Deborah Watson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 5/22/2015 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: Rule Engineering LLC

Client Sample ID: SC-2

Project: Trunk 3C Pipeline

Collection Date: 5/21/2015 2:10:00 PM

Lab ID: 1505994-002

Matrix: SOIL

Received Date: 5/22/2015 6:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/22/2015 9:47:47 AM	19355
Surr: DNOP	88.0	57.9-140		%REC	1	5/22/2015 9:47:47 AM	19355
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	23	3.3		mg/Kg	1	5/22/2015 9:17:28 AM	19348
Surr: BFB	126	80-120	S	%REC	1	5/22/2015 9:17:28 AM	19348
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>RAA</b>
Benzene	0.038	0.033		mg/Kg	1	5/22/2015 9:17:28 AM	19348
Toluene	1.4	0.033		mg/Kg	1	5/22/2015 9:17:28 AM	19348
Ethylbenzene	0.27	0.033		mg/Kg	1	5/22/2015 9:17:28 AM	19348
Xylenes, Total	3.1	0.066		mg/Kg	1	5/22/2015 9:17:28 AM	19348
Surr: 4-Bromofluorobenzene	120	80-120		%REC	1	5/22/2015 9:17:28 AM	19348

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Rule Engineering LLC

Client Sample ID: SC-3

Project: Trunk 3C Pipeline

Collection Date: 5/21/2015 2:40:00 PM

Lab ID: 1505994-003

Matrix: SOIL

Received Date: 5/22/2015 6:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/22/2015 10:08:59 AM	19355
Surr: DNOP	89.3	57.9-140		%REC	1	5/22/2015 10:08:59 AM	19355
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	5/22/2015 9:46:08 AM	19348
Surr: BFB	89.6	80-120		%REC	1	5/22/2015 9:46:08 AM	19348
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>RAA</b>
Benzene	ND	0.038		mg/Kg	1	5/22/2015 9:46:08 AM	19348
Toluene	ND	0.038		mg/Kg	1	5/22/2015 9:46:08 AM	19348
Ethylbenzene	ND	0.038		mg/Kg	1	5/22/2015 9:46:08 AM	19348
Xylenes, Total	ND	0.077		mg/Kg	1	5/22/2015 9:46:08 AM	19348
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	5/22/2015 9:46:08 AM	19348

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

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

**Hall Environmental Analysis Laboratory, Inc.**

**Analytical Report**

Lab Order 1505994

Date Reported: 5/26/2015

**CLIENT:** Rule Engineering LLC

**Client Sample ID:** SC-4

**Project:** Trunk 3C Pipeline

**Collection Date:** 5/21/2015 3:05:00 PM

**Lab ID:** 1505994-004

**Matrix:** SOIL

**Received Date:** 5/22/2015 6:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/22/2015 10:30:14 AM	19355
Surr: DNOP	90.2	57.9-140		%REC	1	5/22/2015 10:30:14 AM	19355
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	5/22/2015 10:14:52 AM	19348
Surr: BFB	89.1	80-120		%REC	1	5/22/2015 10:14:52 AM	19348
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>RAA</b>
Benzene	ND	0.030		mg/Kg	1	5/22/2015 10:14:52 AM	19348
Toluene	ND	0.030		mg/Kg	1	5/22/2015 10:14:52 AM	19348
Ethylbenzene	ND	0.030		mg/Kg	1	5/22/2015 10:14:52 AM	19348
Xylenes, Total	ND	0.061		mg/Kg	1	5/22/2015 10:14:52 AM	19348
Surr: 4-Bromofluorobenzene	104	80-120		%REC	1	5/22/2015 10:14:52 AM	19348

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Rule Engineering LLC

Client Sample ID: SC-5

Project: Trunk 3C Pipeline

Collection Date: 5/21/2015 3:15:00 PM

Lab ID: 1505994-005

Matrix: SOIL

Received Date: 5/22/2015 6:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/22/2015 10:51:25 AM	19355
Surr: DNOP	89.7	57.9-140		%REC	1	5/22/2015 10:51:25 AM	19355
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	5/22/2015 10:43:30 AM	19348
Surr: BFB	89.6	80-120		%REC	1	5/22/2015 10:43:30 AM	19348
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>RAA</b>
Benzene	ND	0.031		mg/Kg	1	5/22/2015 10:43:30 AM	19348
Toluene	ND	0.031		mg/Kg	1	5/22/2015 10:43:30 AM	19348
Ethylbenzene	ND	0.031		mg/Kg	1	5/22/2015 10:43:30 AM	19348
Xylenes, Total	ND	0.063		mg/Kg	1	5/22/2015 10:43:30 AM	19348
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	5/22/2015 10:43:30 AM	19348

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1505994

26-May-15

Client: Rule Engineering LLC

Project: Trunk 3C Pipeline

Sample ID	<b>MB-19355</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>19355</b>	RunNo:	<b>26355</b>					
Prep Date:	<b>5/22/2015</b>	Analysis Date:	<b>5/22/2015</b>	SeqNo:	<b>783207</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	9.6		10.00		96.2	57.9	140			

Sample ID	<b>LCS-19355</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>19355</b>	RunNo:	<b>26355</b>					
Prep Date:	<b>5/22/2015</b>	Analysis Date:	<b>5/22/2015</b>	SeqNo:	<b>783219</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	83.2	67.8	130			
Surr: DNOP	4.2		5.000		83.1	57.9	140			

Sample ID	<b>1505994-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>19355</b>	RunNo:	<b>26355</b>					
Prep Date:	<b>5/22/2015</b>	Analysis Date:	<b>5/22/2015</b>	SeqNo:	<b>783477</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	50.20	0	85.1	42.3	146			
Surr: DNOP	4.3		5.020		86.4	57.9	140			

Sample ID	<b>1505994-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>19355</b>	RunNo:	<b>26355</b>					
Prep Date:	<b>5/22/2015</b>	Analysis Date:	<b>5/22/2015</b>	SeqNo:	<b>783651</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	10	50.15	0	87.0	42.3	146	2.13	28.9	
Surr: DNOP	4.4		5.015		87.4	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1505994

26-May-15

Client: Rule Engineering LLC

Project: Trunk 3C Pipeline

Sample ID	<b>MB-19348</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>19348</b>	RunNo:	<b>26362</b>					
Prep Date:	<b>5/21/2015</b>	Analysis Date:	<b>5/22/2015</b>	SeqNo:	<b>783469</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		89.0	80	120			

Sample ID	<b>LCS-19348</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>19348</b>	RunNo:	<b>26362</b>					
Prep Date:	<b>5/21/2015</b>	Analysis Date:	<b>5/22/2015</b>	SeqNo:	<b>784013</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	64	130			
Surr: BFB	970		1000		97.4	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 Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505994

26-May-15

**Client:** Rule Engineering LLC

**Project:** Trunk 3C Pipeline

Sample ID	<b>MB-19348</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>19348</b>	RunNo:	<b>26362</b>					
Prep Date:	<b>5/21/2015</b>	Analysis Date:	<b>5/22/2015</b>	SeqNo:	<b>783476</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		104	80	120			

Sample ID	<b>LCS-19348</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>19348</b>	RunNo:	<b>26362</b>					
Prep Date:	<b>5/21/2015</b>	Analysis Date:	<b>5/22/2015</b>	SeqNo:	<b>784022</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	76.6	128			
Toluene	0.99	0.050	1.000	0	99.0	75	124			
Ethylbenzene	1.0	0.050	1.000	0	102	79.5	126			
Xylenes, Total	3.0	0.10	3.000	0	101	78.8	124			
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 Not In Range
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: **RULE ENGINEERING LL**

Work Order Number: **1505994**

RcptNo: **1**

Received by/date: LM 05/22/15

Logged By: **Anne Thorne** 5/22/2015 6:10:00 AM *Anne Thorne*

Completed By: **Anne Thorne** 5/22/2015 *Anne Thorne*

Reviewed By: *[Signature]* 05/22/15

**Chain of Custody**

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

**Log In**

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

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

**Special Handling (if applicable)**

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

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

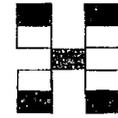
17. Additional remarks:

**18. Cooler Information**

Cooler No.	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.8	Good	Yes			

# Chain-of-Custody Record

Turn-Around Time:  
 Standard  Rush Saturday  
 Project Name: Trunk 3C Pipeline  
 Project #:  
 Project Manager: D Watson  
 Sampler: D Watson  
 On Site:  Yes  No  
 Sample Temperature: 3.8



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: Rule Engineering  
 Mailing Address: 501 Airport Drive  
Farmington NM 87401  
 Phone #: 505 860 2712  
 Email or Fax#: \_\_\_\_\_  
 QA/QC Package:  
 Standard  Level 4 (Full Validation)  
 Accreditation  
 NELAP  Other \_\_\_\_\_  
 EDD (Type) \_\_\_\_\_

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX (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)
21-15	1355	Soil	SC-1	1-McCollister 1-4oz	MUDH/ non	505994	X		X									
21-15	1410	soil	SC-2 (000)	1/4		-002	X		X									
21-15	1440	soil	SC-3			-003	X		X									
21-15	1505	soil	SC-4			-004	X		X									
21-15	1515	soil	SC-5			-005	X		X									

Date: 21/15	Time: 1645	Relinquished by: <u>Debra Water</u>	Received by: <u>Christa Warren</u>	Date: 5/21/15	Time: 1645	Remarks: <u>Bull to Enterprise</u> <u>Attn: Tom Long</u> <u>WD: N 21379</u> <u>Area: 200C</u> <u>Paykey: RB 21200</u>
Date: 21/15	Time: 2400	Relinquished by: <u>Christa Warren</u>	Received by: <u>[Signature]</u>	Date: 05/22/15	Time: 0610	

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.