



March 13, 2018

#5E25868 BG11

NMOCD District II  
Mike Bratcher  
811 S. First St.  
Artesia, NM 88210

SUBJECT: SOIL REMEDIATION WORK PLAN FOR THE HISTORIC RELEASE FOUND AT THE MOBIL CI #4 PIPELINE (2RP-4565), EDDY COUNTY, NEW MEXICO

Dear Mr. Bratcher,

On behalf of EOG Resources (EOG), Souder, Miller & Associates (SMA) has prepared this WORK PLAN that describes the discovery, assessment, initial delineation and proposed remediation for a release associated with the Mobil CI #4 Pipeline. The site is in UNIT J, SECTION 6, TOWNSHIP 19S, RANGE 25E, Eddy County, New Mexico, on private land. Figure 1 illustrates the vicinity and location of the site. Table 1, below, summarizes information regarding the release.

Table 1: Release information and Site Ranking	
Name	Mobil CI #4 Pipeline
Company	EOG Resources
RP Number	2RP-4565
API Number	30-015-23212
Location	32.686980°, -104.52359°
Estimated Date of Release	unknown
Date Reported to NMOCD	12/22/2017
Land Owner	Private
Reported To	Mike Bratcher
Source of Release	unknown
Released Material	unknown
Released Volume	unknown
Recovered Volume	unknown
Net Release	unknown
Nearest Waterway	Half mile southeast from unnamed Arroyo that feeds into Dagger Draw
Depth to Groundwater	Estimated to be greater than 100'
Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	0
SMA Response Dates	12/05/17; 12/21/17; 2/21/18

## **1.0 Background**

On December 5, 2017, SMA mobilized to the Mobil CI #4 Pipeline to oversee remediation of a non-reportable release. During excavation of the non-reportable release, field screening indicated a larger, historic release at depths greater than the impacts from the non-reportable release. The non-reportable release was excavated to a depth of 2-3 feet bgs and impacted soil was removed and disposed of in December of 2017.

## **2.0 Site Ranking and Land Jurisdiction**

The release site is located approximately .56 miles southeast of an unnamed arroyo that feeds into Dagger Draw and 3.4 miles south of the Peñasco River, with an elevation of approximately 3,620 feet above sea level. SMA searched the New Mexico State Engineer's Office (NMOSE) online water well database for water wells in the vicinity of the release. Fourteen wells are located within a three-mile radius of the site. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be greater than 100 feet below ground surface (bgs).

Recommended Remediation Action Levels (RRALs) are determined by the site ranking according to the NMOCD *Guidelines for Remediation of Leaks, Spills, and Releases* (1993). Below in Table 2 are the remediation standards and the site ranking for this location. Justification for this site ranking is found in Figure 1 and Appendix B.

Table 2.

<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>

<b>Depth to Groundwater</b>	<b>NMOCD Numeric Rank</b>
< 50 BGS = 20	
50' to 99' = 10	
>100' = 0	0
<b>Distance to Nearest Surface Water</b>	<b>NMOCD Numeric Rank</b>
< 200' = 20	
200' - 1000' = 10	
>1000' = 0	0
<b>Well Head Protection</b>	<b>NMOCD Numeric Rank</b>
<1000' (or <200' domestic) = 20	
> 1000' = 0	0
<b>Total Site Ranking</b>	<b>0</b>

## **3.0 Release Characterization**

On December 4, 2017, SMA personnel mobilized the Mobil CI #4 Pipeline to assess the release area of a small, non-reportable release. Soil samples were collected and field-screened using an EC meter to characterize the extent of the release. On December 5, 2017, after receiving 811 clearance, SMA personnel met equipment

onsite to guide the excavation, remove the impacted material and collect confirmation samples. As the surficial soil was removed, SMA detected contamination beyond the extents of the non-reportable release area. Initial samples were collected and sent to the lab.

On December 21, 2017 SMA field personnel returned to the location to investigate the vertical extent of the contamination. Through further delineation on the west side of the existing excavation, it was determined that the impacted area was primarily located in the area represented by BH2 and BH3 (Figure 2). These areas were delineated to 18 feet bgs and 21 feet bgs, respectively. Laboratory samples were collected from the newly delineated sidewalls (SW1, SW7 and SW8), as well as the bottom of the delineation at locations BH1 (8 feet bgs), BG2 (18 feet bgs), BH 3 (21 feet bgs) and BH4 (14 bgs).

On February 21, 2018, after receiving 811 clearance, SMA field personnel returned to the location to complete delineation of BH2, located near the southwest area of the excavation, due to results of the December 21 sample exceeding RRALs for BTEX and TPH. The soil boring was advanced using an air rotary drilling rig, equipped with a split-spoon sampler, samples were collected every five feet and field-screened using an EC meter. Confirmation samples were collected to characterize and delineate the release to 50 feet bgs.

All samples were collected and processed according to NMOCD soil sampling procedures. The samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analyses of chlorides by Method 300.0, volatile organics (BTEX) by Method 8021B, and MRO, DRO, and GRO by EPA Method 8015D. Sample locations are depicted on Figure 2. All field screening and laboratory results are summarized in Table 3. Laboratory reports are included in Appendix C.

#### **4.0 Soil Remediation Workplan**

SMA will guide the excavation of affected soils, with approval from area utilities owners via 811 and NMOCD. SMA will continue to horizontally delineate the site by field screening with an EC meters and a PetroFlag. Vertical excavation on the west side (BH2 and BH3) of the existing excavation will be advanced to a depth 14-20 feet bgs, as predetermined by lab results. The east side of the current excavation, represented by BH1 and BH4, will be excavated to 4 feet bgs.

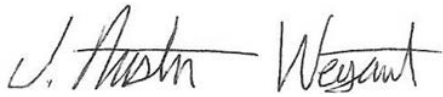
All confirmation samples will be for chloride and sent to the lab for analyses of chlorides by Method 300.0, volatile organics (BTEX) by Method 8021B, and MRO, DRO, and GRO by EPA Method 8015D. Approximately 652 cubic yards of contaminated soil are projected to be removed and replaced with clean backfill material to return the surface to previous contours. The contaminated soil will be transported for proper disposal at Lea Land, near Carlsbad, NM, an NMOCD permitted disposal facility.

#### **5.0 Scope and Limitations**

The scope of our services consisted of the performance of assessment sampling, verification of release stabilization, regulatory liaison, and preparation of this work plan. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Austin Weyant at 575-689-8801 or Shawna Chubbuck at 505-325-7535.

Submitted by:  
SOUDER, MILLER & ASSOCIATES

A handwritten signature in black ink that reads "Austin Weyant". The signature is written in a cursive, flowing style.

Austin Weyant  
Project Scientist

Reviewed by:

A handwritten signature in blue ink that reads "Shawna Chubbuck". The signature is written in a cursive, flowing style.

Shawna Chubbuck  
Senior Scientist

**ATTACHMENTS:**

**Figures:**

Figure 1: Vicinity and Well Head Protection Map

Figure 2: Site and Sample Location Map

**Tables:**

Table 3: Summary of Sample Results

**Appendices:**

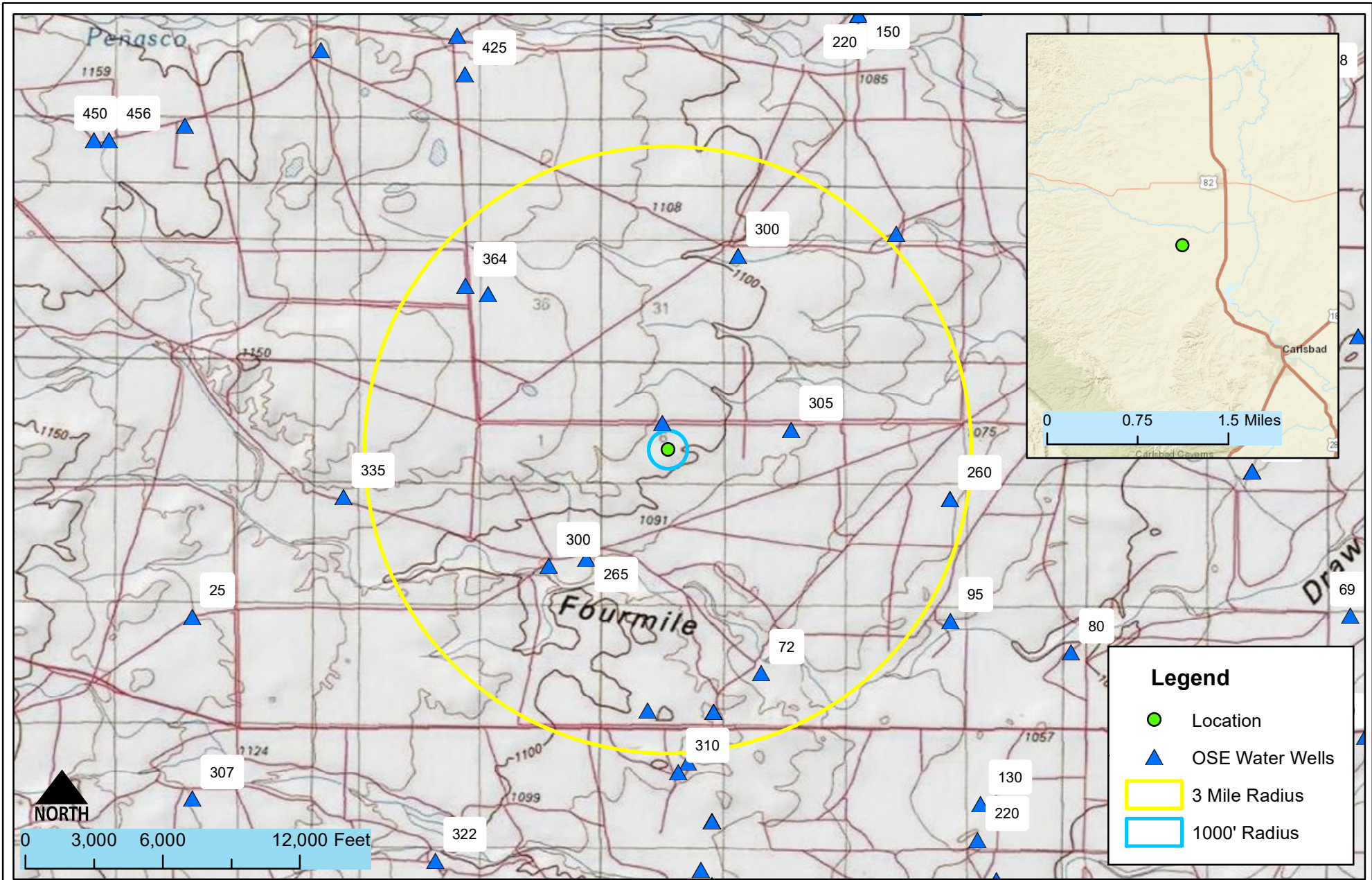
Appendix A: Form C141 Initial and Final

Appendix B: NMOSE Wells Report

Appendix C: Laboratory Analytical Reports

FIGURE 1  
VICINITY AND NMOSE  
DATA MAP





Vicinity and Well Head Protection Map  
Mobil CI #4 Pipeline- EOG  
S6-T19S-R25E, Howell Ranch, NM

Figure 1

Date Saved:  
12/28/2017

Revisions	
By: _____	Date: _____
By: _____	Date: _____

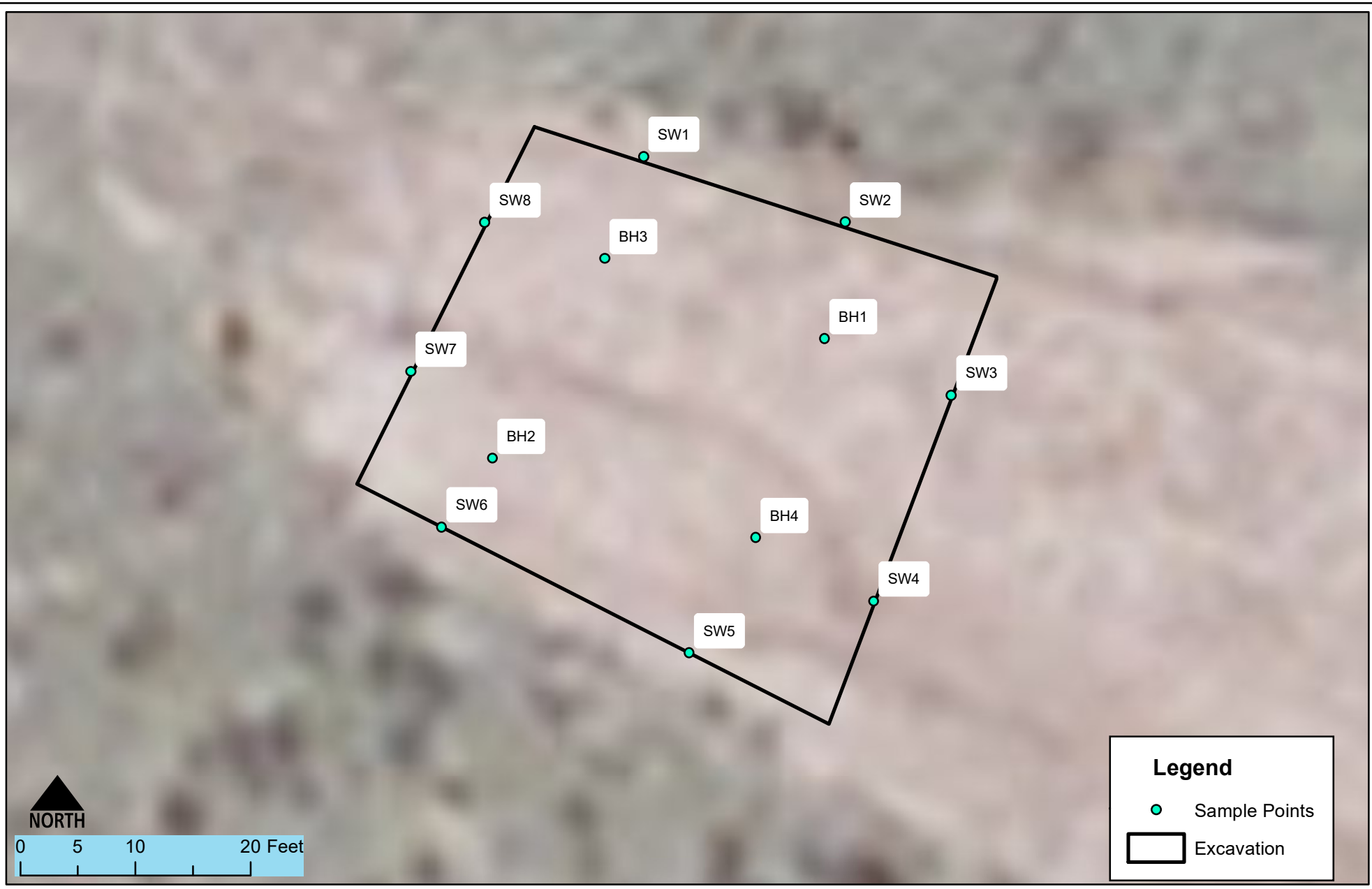
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Drawn	Melodie Sanjari
Checked	_____
Approved	_____



201 South Halaguena Street  
Carlsbad, New Mexico 88221  
(575) 689-7040  
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FIGURE 2  
SITE AND SAMPLE  
LOCATION MAP



Site and Sample Location Map  
Mobil CI #4 Pipeline- EOG  
S6-T19S-R25E, Howell Ranch,

Figure 2

Date Saved: 12/28/2017	By: _____	Date: _____	Revisions	Descr: _____
	By: _____	Date: _____		Descr: _____
	Copyright 2015 Souder, Miller & Associates - All Rights Reserved			

Drawn	NM Melodie Sanjari
Checked	_____
Approved	_____



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**TABLE 3**

**SUMMARY SAMPLE RESULTS**

## Mobil CI #4 Pipeline (2RP-4565) Sample Summary Table

Sample Number on Figure 2	Sample Date	Depth (feet bgs)	Proposed Action	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	Total TPH mg/Kg	CI-Lab mg/Kg
NMOCD RRAL's for Site Ranking 0				50 mg/Kg	10 mg/Kg				5000 mg/Kg	600 mg/kg
SW1	12/5/2017	2 to 3	sidewall	<0.207	<0.023	<4.6	120	200	320	<b>990</b>
SW1	12/21/2017	5 to 7	sidewall	<b>321.5</b>	0.51	2000	17000	6400	<b>25400</b>	<b>1100</b>
SW6	12/5/2017	2 to 3	sidewall	<0.208	<0.023	8.6	6300	3300	<b>9608.6</b>	<b>1600</b>
SW6	12/21/2017	5 to 7	sidewall	<1.08	<0.12	81	13000	6900	<b>19981</b>	790
SW7	12/5/2017	2 to 3	sidewall	<0.212	<0.024	<4.7	2100	2200	4300	<b>960</b>
SW7	12/21/2017	5 to 7	sidewall	<b>174</b>	<0.49	1300	21000	7700	<b>30000</b>	<b>830</b>
SW8	12/21/2017	5 to 7	sidewall	0.626	<0.024	55	7400	4200	<b>11655</b>	<b>1300</b>
BH1	12/5/2017	3	excavate	<0.207	<0.023	<4.6	210	540	750	<b>940</b>
BH1	12/21/2017	4	excavate	<0.098	<0.024	<4.9	110	170	280	<b>1700</b>
BH1	12/21/2017	8	in-situ	<0.10	<0.025	<5.0	<9.9	<50.0	<64.0	470
BH2	12/5/2017	10	excavate	<b>76.74</b>	0.24	990	7100	2400	<b>10490</b>	<b>1300</b>
BH2	12/21/2017	12	excavate	12.57	0.47	530	14000	6300	<b>20830</b>	<b>1100</b>
BH2	12/21/2017	14	excavate	5.16	<0.23	220	5100	2400	<b>7720</b>	<b>720</b>
BH2	12/21/2017	18	excavate	<b>56.49</b>	0.69	570	6800	2600	<b>9970</b>	<b>1000</b>
BH2	2/21/2018	20	excavate	<1.08	<0.12	46	2000	970	3016	460
BH2	2/21/2018	25	in-situ	<0.215	<0.024	<4.8	<9.1	<46	<60	<30
BH2	2/21/2018	30	in-situ	<0.211	<0.023	<4.7	<9.7	<49	<63.4	<30
BH2	2/21/2018	40	in-situ	<0.224	0.025	<5.0	<9.7	<48	<62.7	<30
BH2	2/21/2018	50	in-situ	<0.21	<0.023	<4.7	<9.9	<49	<63.6	<30
BH3	12/21/2017	6	excavate	<b>107.3</b>	<0.46	1600	12000	4000	<b>17600</b>	<b>1100</b>
BH3	12/21/2017	10	excavate	<b>56</b>	<0.49	880	6100	2400	<b>9380</b>	<b>760</b>
BH3	12/21/2017	14	excavate	<b>86.56</b>	0.15	990	9300	3400	<b>13690</b>	<b>710</b>
BH3	12/21/2017	18	in-situ	<0.10	<0.025	11	400	180	591	410
BH3	12/21/2017	21	in-situ	4.62	<0.024	140	1500	640	2280	400
BH4	12/21/2017	4	excavate	0.66	<0.024	17	3400	2200	<b>5617</b>	<b>680</b>
BH4	12/21/2017	6	in-situ	<0.674	<0.025	<5.0	17	<49	17	540
BH4	12/21/2017	10	in-situ	<0.215	<0.024	<4.8	<10	<51	<65.8	<30
BH4	12/21/2017	14	in-situ	<0.221	<0.098	<4.9	53	<49	53	53

exceeds RRAL's

elevated CI-

APPENDIX A  
FORM C141 INITIAL

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

State of New Mexico  
Energy Minerals and Natural Resources

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

Received on  
12/22/17  
OCD District II

Form C-141  
Revised April 3, 2017

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

### Release Notification and Corrective Action

NAB1801742031

#### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: EOG Y Resources, Inc	25575	Contact: Chase Settle
Address: 104 South 4 <sup>th</sup> Street, Artesia, NM		Telephone No.: 575-748-4171
Facility Name: Mobil CI #4 Pipeline		Facility Type: Pipeline

Surface Owner: Private	Mineral Owner: Federal	API No. 30-015-23212
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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
J	6	19S	25E	190	South	250	East	EDDY

Latitude: 32.686980 Longitude: -104.52359 NAD83

#### NATURE OF RELEASE

Type of Release: Unknown	Volume of Release: Unknown	Volume Recovered: None
Source of Release: Unknown	Date and Hour of Occurrence: Unknown	Date and Hour of Discovery: 12/11/17 PM
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input 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. \*  
N/A

Describe Cause of Problem and Remedial Action Taken. \*

During the investigation and cleanup of a non-reportable spill in the pasture of the Mobil CI #4 Pipeline, a much larger, historic spill was discovered going down past 10-feet bgs.

Describe Area Affected and Cleanup Action Taken. \*

Plan to continue to further investigate and delineate the spill and create a workplan that will be submitted to the NMOCD before continuing the cleanup.

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>Chase Settle</i>	OIL CONSERVATION DIVISION	
Printed Name: Chase Settle	Approved by Environmental Specialist <i>Crystal W</i>	
Title: Safety & Environmental Representative II	Approval Date: 11/16/18	Expiration Date: N/A
E-mail Address: chase_settle@eogresources.com	Conditions of Approval: <i>see attached</i>	Attached <input checked="" type="checkbox"/> <i>ERP-4565</i>
Date: December 21, 2017	Phone: 575-748-4171	

\* Attach Additional Sheets If Necessary

No RP

11/16/18 AB

APPENDIX B  
NMOSE WELLS REPORT



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,  
O=orphaned,  
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
<a href="#">RA 05331</a>			ED	1	1	4	05	19S	25E	546308	3616955*	1668	460	305	155
<a href="#">RA 03959</a>			ED		2	4	12	19S	24E	543589	3615225*	1812	545	265	280
<a href="#">RA 06436</a>			ED	3	1	4	12	19S	24E	543083	3615122*	2222		300	
<a href="#">RA 04335</a>			CH		1	1	32	18S	25E	545580	3619275*	2746	400	300	100
<a href="#">RA 08148</a>			ED	3	3	1	36	18S	24E	542252	3618748*	3170	508		
<a href="#">RA 06418</a>			ED	1	2	3	17	19S	25E	545925	3613710*	3234	120	72	48
<a href="#">RA 11061 POD1</a>			ED		4	2	35	18S	24E	541949	3618852*	3470	450	364	86
<a href="#">RA 04426</a>			CH		4	3	18	19S	25E	544412	3613201*	3494	715		
<a href="#">RA 05333</a>			ED		2	2	09	19S	25E	548430	3616046*	3823	315	260	55
<a href="#">RA 11654 POD1</a>			ED		3	2	19	19S	25E	544959	3612514	4182	500		
<a href="#">RA 08146</a>			ED	4	4	3	28	18S	25E	547693	3619576*	4188	400		
<a href="#">RA 04726</a>			ED		3	2	19	19S	25E	544825	3612390*	4300	390	310	80
<a href="#">RA 03960</a>			ED		2	2	10	19S	24E	540341	3616025*	4370	440	335	105
<a href="#">RA 05900</a>			ED		2	2	16	19S	25E	548442	3614424*	4406	185	95	90

Average Depth to Water: **260 feet**

Minimum Depth: **72 feet**

Maximum Depth: **364 feet**

**Record Count:** 14

**UTM NAD83 Radius Search (in meters):**

**Easting (X):** 544660.9366651732

**Northing (Y):** 3616686.8838805803

**Radius:** 5000

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



**APPENDIX C**

**LABORATORY ANALYTICAL REPORTS**



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

December 18, 2017

Austin Weyant  
Souder, Miller & Associates  
201 S Halagueno  
Carlsbad, NM 88221  
TEL: (575) 689-7040  
FAX

RE: Mobil C1 4 Pipeline

OrderNo.: 1712481

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 5 sample(s) on 12/8/2017 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 1712481

Date Reported: 12/18/2017

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** SW1

**Project:** Mobil CI 4 Pipeline

**Collection Date:** 12/5/2017 10:10:00 AM

**Lab ID:** 1712481-001

**Matrix:** SOIL

**Received Date:** 12/8/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	990	30		mg/Kg	20	12/15/2017 12:59:14 PM	35535
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	120	9.8		mg/Kg	1	12/14/2017 12:35:02 PM	35433
Motor Oil Range Organics (MRO)	200	49		mg/Kg	1	12/14/2017 12:35:02 PM	35433
Surr: DNOP	83.5	70-130		%Rec	1	12/14/2017 12:35:02 PM	35433
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/11/2017 12:22:03 PM	35409
Surr: BFB	114	15-316		%Rec	1	12/11/2017 12:22:03 PM	35409
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.092		mg/Kg	1	12/11/2017 12:22:03 PM	35409
Benzene	ND	0.023		mg/Kg	1	12/11/2017 12:22:03 PM	35409
Toluene	ND	0.046		mg/Kg	1	12/11/2017 12:22:03 PM	35409
Ethylbenzene	ND	0.046		mg/Kg	1	12/11/2017 12:22:03 PM	35409
Xylenes, Total	ND	0.092		mg/Kg	1	12/11/2017 12:22:03 PM	35409
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	12/11/2017 12:22:03 PM	35409

Refer to the QC Summary report and sample login 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 9
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712481

Date Reported: 12/18/2017

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** SW6

**Project:** Mobil Cl 4 Pipeline

**Collection Date:** 12/5/2017 1:54:00 PM

**Lab ID:** 1712481-002

**Matrix:** SOIL

**Received Date:** 12/8/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1600	75		mg/Kg	50	12/15/2017 3:03:20 PM	35535
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	6300	96		mg/Kg	10	12/12/2017 2:19:02 PM	35433
Motor Oil Range Organics (MRO)	3300	480		mg/Kg	10	12/12/2017 2:19:02 PM	35433
Surr: DNOP	0	70-130	S	%Rec	10	12/12/2017 2:19:02 PM	35433
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	8.6	4.6		mg/Kg	1	12/11/2017 12:45:55 PM	35409
Surr: BFB	138	15-316		%Rec	1	12/11/2017 12:45:55 PM	35409
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.093		mg/Kg	1	12/11/2017 12:45:55 PM	35409
Benzene	ND	0.023		mg/Kg	1	12/11/2017 12:45:55 PM	35409
Toluene	ND	0.046		mg/Kg	1	12/11/2017 12:45:55 PM	35409
Ethylbenzene	ND	0.046		mg/Kg	1	12/11/2017 12:45:55 PM	35409
Xylenes, Total	ND	0.093		mg/Kg	1	12/11/2017 12:45:55 PM	35409
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	12/11/2017 12:45:55 PM	35409

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712481

Date Reported: 12/18/2017

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** SW7

**Project:** Mobil CI 4 Pipeline

**Collection Date:** 12/5/2017 2:07:00 PM

**Lab ID:** 1712481-003

**Matrix:** SOIL

**Received Date:** 12/8/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	960	30		mg/Kg	20	12/15/2017 1:24:02 PM	35535
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	2100	92		mg/Kg	10	12/12/2017 6:21:26 PM	35433
Motor Oil Range Organics (MRO)	2200	460		mg/Kg	10	12/12/2017 6:21:26 PM	35433
Surr: DNOP	0	70-130	S	%Rec	10	12/12/2017 6:21:26 PM	35433
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/11/2017 1:09:48 PM	35409
Surr: BFB	140	15-316		%Rec	1	12/11/2017 1:09:48 PM	35409
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.094		mg/Kg	1	12/11/2017 1:09:48 PM	35409
Benzene	ND	0.024		mg/Kg	1	12/11/2017 1:09:48 PM	35409
Toluene	ND	0.047		mg/Kg	1	12/11/2017 1:09:48 PM	35409
Ethylbenzene	ND	0.047		mg/Kg	1	12/11/2017 1:09:48 PM	35409
Xylenes, Total	ND	0.094		mg/Kg	1	12/11/2017 1:09:48 PM	35409
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	12/11/2017 1:09:48 PM	35409

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712481

Date Reported: 12/18/2017

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH 1-3

**Project:** Mobil CI 4 Pipeline

**Collection Date:** 12/5/2017 11:37:00 AM

**Lab ID:** 1712481-004

**Matrix:** SOIL

**Received Date:** 12/8/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	940	30		mg/Kg	20	12/15/2017 1:36:27 PM	35535
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	210	95		mg/Kg	10	12/12/2017 3:25:02 PM	35433
Motor Oil Range Organics (MRO)	540	470		mg/Kg	10	12/12/2017 3:25:02 PM	35433
Surr: DNOP	0	70-130	S	%Rec	10	12/12/2017 3:25:02 PM	35433
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/11/2017 1:33:42 PM	35409
Surr: BFB	118	15-316		%Rec	1	12/11/2017 1:33:42 PM	35409
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.092		mg/Kg	1	12/11/2017 1:33:42 PM	35409
Benzene	ND	0.023		mg/Kg	1	12/11/2017 1:33:42 PM	35409
Toluene	ND	0.046		mg/Kg	1	12/11/2017 1:33:42 PM	35409
Ethylbenzene	ND	0.046		mg/Kg	1	12/11/2017 1:33:42 PM	35409
Xylenes, Total	ND	0.092		mg/Kg	1	12/11/2017 1:33:42 PM	35409
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	12/11/2017 1:33:42 PM	35409

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

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



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712481

Date Reported: 12/18/2017

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH 2-10

**Project:** Mobil CI 4 Pipeline

**Collection Date:** 12/5/2017 12:17:00 PM

**Lab ID:** 1712481-005

**Matrix:** SOIL

**Received Date:** 12/8/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1300	75		mg/Kg	50	12/15/2017 3:15:44 PM	35535
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	7100	95		mg/Kg	10	12/12/2017 3:47:14 PM	35433
Motor Oil Range Organics (MRO)	2400	480		mg/Kg	10	12/12/2017 3:47:14 PM	35433
Surr: DNOP	0	70-130	S	%Rec	10	12/12/2017 3:47:14 PM	35433
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	990	47		mg/Kg	10	12/11/2017 9:35:02 AM	35409
Surr: BFB	619	15-316	S	%Rec	10	12/11/2017 9:35:02 AM	35409
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.94		mg/Kg	10	12/11/2017 9:35:02 AM	35409
Benzene	0.24	0.23		mg/Kg	10	12/11/2017 9:35:02 AM	35409
Toluene	14	0.47		mg/Kg	10	12/11/2017 9:35:02 AM	35409
Ethylbenzene	9.5	0.47		mg/Kg	10	12/11/2017 9:35:02 AM	35409
Xylenes, Total	53	0.94		mg/Kg	10	12/11/2017 9:35:02 AM	35409
Surr: 4-Bromofluorobenzene	150	80-120	S	%Rec	10	12/11/2017 9:35:02 AM	35409

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1712481

18-Dec-17

Client: Souder, Miller &amp; Associates

Project: Mobil Cl 4 Pipeline

Sample ID	MB-35535		SampType: mblk		TestCode: EPA Method 300.0: Anions					
Client ID:	PBS		Batch ID: 35535		RunNo: 47816					
Prep Date:	12/15/2017		Analysis Date: 12/15/2017		SeqNo: 1531039		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-35535		SampType: lcs		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 35535		RunNo: 47816					
Prep Date:	12/15/2017		Analysis Date: 12/15/2017		SeqNo: 1531040		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.4	90	110			

### Qualifiers:

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1712481

18-Dec-17

Client: Souder, Miller &amp; Associates

Project: Mobil C1 4 Pipeline

Sample ID	LCS-35433		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 35433		RunNo: 47696					
Prep Date:	12/11/2017		Analysis Date: 12/12/2017		SeqNo: 1524952		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.7	73.2	114			
Surr: DNOP	4.4		5.000		88.8	70	130			

Sample ID	MB-35433		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 35433		RunNo: 47696					
Prep Date:	12/11/2017		Analysis Date: 12/12/2017		SeqNo: 1524953		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.2		10.00		91.9	70	130			

### Qualifiers:

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1712481

18-Dec-17

Client: Souder, Miller &amp; Associates

Project: Mobil Cl 4 Pipeline

Sample ID	MB-35409		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 35409		RunNo: 47674					
Prep Date:	12/8/2017		Analysis Date: 12/11/2017		SeqNo: 1523843		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		110	15	316			

Sample ID	LCS-35409		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 35409		RunNo: 47674					
Prep Date:	12/8/2017		Analysis Date: 12/11/2017		SeqNo: 1523844		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	108	75.9	131			
Surr: BFB	1200		1000		122	15	316			

### Qualifiers:

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1712481

18-Dec-17

Client: Souder, Miller &amp; Associates

Project: Mobil Cl 4 Pipeline

Sample ID	MB-35409		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 35409		RunNo: 47674					
Prep Date:	12/8/2017		Analysis Date: 12/11/2017		SeqNo: 1523870		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID	LCS-35409		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 35409		RunNo: 47674					
Prep Date:	12/8/2017		Analysis Date: 12/11/2017		SeqNo: 1523871		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.89	0.10	1.000	0	88.8	70.1	121			
Benzene	0.94	0.025	1.000	0	93.9	77.3	128			
Toluene	0.92	0.050	1.000	0	92.3	79.2	125			
Ethylbenzene	0.87	0.050	1.000	0	87.3	80.7	127			
Xylenes, Total	2.6	0.10	3.000	0	85.7	81.6	129			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

### Qualifiers:

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

## Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1712481

RcptNo: 1

Received By: Erin Melendrez

12/8/2017 9:35:00 AM

Completed By: Isaiah Ortiz

12/8/2017 10:47:33 AM

Reviewed By: ENM

12/8/17

*uug*  
*IO*

### 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	1.1	Good	Yes			



# Chain-of-Custody Record

Client: SMA

Mailing Address: 201 S. Halagueno

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

Project Manager:

Austin Weyant

Sampler:

AWS/HWP

On Ice: ☒ Yes ☐ No

Sample Temperature: 1

Date Time Matrix Sample Request ID

12/5/17 10:10 soil SW1

↓ 1:54 ↓ SW6

↓ 2:07 ↓ SW7

soil 11:37 soil BH1-B

↓ 12:17 + BH2-10'

Container Type and #

402

↓

↓

Preservative Type

HEAL No. 1712481

001

002

003

004

005

## Analysis Request

BTEX + MTBE + TMB's (8021)

BTEX + MTBE + TPH (Gas only)

TPH 8015B (GRO / DRO / MRO)

TPH (Method 418.1)

EDB (Method 504.1)

PAH's (8310 or 8270 SIMS)

RCRA 8 Metals

Anions (F<sup>-</sup>, Cl<sup>-</sup>, NO<sub>3</sub><sup>-</sup>, NO<sub>2</sub><sup>-</sup>, PO<sub>4</sub><sup>3-</sup>, SO<sub>4</sub><sup>2-</sup>)

8081 Pesticides / 8082 PCB's

8260B (VOA)

8270 (Semi-VOA)

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

Remarks:

EOG

Received by: SPH Date Time 12/17 1455

Received by: WTF Date Time 12/17 0935

Date: 12/17 2:50 Relinquished by: [Signature]

Date: 12/17 1200 Relinquished by: [Signature]

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.

Courier



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

January 04, 2018

Austin Weyant  
Souder, Miller & Associates  
201 S Halagueno  
Carlsbad, NM 88221  
TEL: (575) 689-7040  
FAX

RE: Mobile CI #4 Pipeline

OrderNo.: 1712E23

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 18 sample(s) on 12/23/2017 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 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH3-6'

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 11:31:00 AM

**Lab ID:** 1712E23-001

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1100	30		mg/Kg	20	1/3/2018 8:06:16 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	12000	190		mg/Kg	20	12/29/2017 11:13:34 AM	35724
Motor Oil Range Organics (MRO)	4000	970		mg/Kg	20	12/29/2017 11:13:34 AM	35724
Surr: DNOP	0	70-130	S	%Rec	20	12/29/2017 11:13:34 AM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	1600	92		mg/Kg	20	12/27/2017 12:13:53 PM	35708
Surr: BFB	370	15-316	S	%Rec	20	12/27/2017 12:13:53 PM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	1.8		mg/Kg	20	12/27/2017 12:13:53 PM	35708
Benzene	ND	0.46		mg/Kg	20	12/27/2017 12:13:53 PM	35708
Toluene	4.9	0.92		mg/Kg	20	12/27/2017 12:13:53 PM	35708
Ethylbenzene	4.4	0.92		mg/Kg	20	12/27/2017 12:13:53 PM	35708
Xylenes, Total	98	1.8		mg/Kg	20	12/27/2017 12:13:53 PM	35708
Surr: 4-Bromofluorobenzene	111	80-120		%Rec	20	12/27/2017 12:13:53 PM	35708

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH3-10'

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 11:45:00 AM

**Lab ID:** 1712E23-002

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	760	30		mg/Kg	20	1/3/2018 8:18:42 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	6100	95		mg/Kg	10	12/29/2017 11:57:41 AM	35724
Motor Oil Range Organics (MRO)	2400	470		mg/Kg	10	12/29/2017 11:57:41 AM	35724
Surr: DNOP	0	70-130	S	%Rec	10	12/29/2017 11:57:41 AM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	880	98		mg/Kg	20	12/27/2017 11:53:59 PM	35708
Surr: BFB	268	15-316		%Rec	20	12/27/2017 11:53:59 PM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	2.0		mg/Kg	20	12/27/2017 11:53:59 PM	35708
Benzene	ND	0.49		mg/Kg	20	12/27/2017 11:53:59 PM	35708
Toluene	ND	0.98		mg/Kg	20	12/27/2017 11:53:59 PM	35708
Ethylbenzene	ND	0.98		mg/Kg	20	12/27/2017 11:53:59 PM	35708
Xylenes, Total	56	2.0		mg/Kg	20	12/27/2017 11:53:59 PM	35708
Surr: 4-Bromofluorobenzene	97.6	80-120		%Rec	20	12/27/2017 11:53:59 PM	35708

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** SW1

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 11:47:00 AM

**Lab ID:** 1712E23-003

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1100	75		mg/Kg	50	1/3/2018 8:31:07 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	17000	960		mg/Kg	100	12/28/2017 11:43:57 PM	35724
Motor Oil Range Organics (MRO)	6400	4800		mg/Kg	100	12/28/2017 11:43:57 PM	35724
Surr: DNOP	0	70-130	S	%Rec	100	12/28/2017 11:43:57 PM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	2000	47		mg/Kg	10	12/28/2017 12:17:01 AM	35708
Surr: BFB	971	15-316	S	%Rec	10	12/28/2017 12:17:01 AM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.93		mg/Kg	10	12/28/2017 12:17:01 AM	35708
Benzene	0.51	0.23		mg/Kg	10	12/28/2017 12:17:01 AM	35708
Toluene	67	4.7		mg/Kg	100	12/28/2017 2:14:25 PM	35708
Ethylbenzene	64	4.7		mg/Kg	100	12/28/2017 2:14:25 PM	35708
Xylenes, Total	190	9.3		mg/Kg	100	12/28/2017 2:14:25 PM	35708
Surr: 4-Bromofluorobenzene	118	80-120		%Rec	100	12/28/2017 2:14:25 PM	35708

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH3-14'

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 12:02:00 PM

**Lab ID:** 1712E23-004

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	710	30		mg/Kg	20	1/3/2018 8:43:31 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	9300	200		mg/Kg	20	12/29/2017 12:41:39 PM	35724
Motor Oil Range Organics (MRO)	3400	980		mg/Kg	20	12/29/2017 12:41:39 PM	35724
Surr: DNOP	0	70-130	S	%Rec	20	12/29/2017 12:41:39 PM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	990	24		mg/Kg	5	12/28/2017 2:12:07 AM	35708
Surr: BFB	670	15-316	S	%Rec	5	12/28/2017 2:12:07 AM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.47		mg/Kg	5	12/28/2017 2:12:07 AM	35708
Benzene	0.15	0.12		mg/Kg	5	12/28/2017 2:12:07 AM	35708
Toluene	0.41	0.24		mg/Kg	5	12/28/2017 2:12:07 AM	35708
Ethylbenzene	ND	0.24		mg/Kg	5	12/28/2017 2:12:07 AM	35708
Xylenes, Total	86	4.7		mg/Kg	50	12/28/2017 4:12:49 PM	35708
Surr: 4-Bromofluorobenzene	112	80-120		%Rec	50	12/28/2017 4:12:49 PM	35708

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

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



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SW8

Project: Mobile CI #4 Pipeline

Collection Date: 12/21/2017 12:07:00 PM

Lab ID: 1712E23-005

Matrix: SOIL

Received Date: 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1300	75		mg/Kg	50	1/3/2018 8:55:56 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	7400	180		mg/Kg	20	12/29/2017 1:25:43 PM	35724
Motor Oil Range Organics (MRO)	4200	900		mg/Kg	20	12/29/2017 1:25:43 PM	35724
Surr: DNOP	0	70-130	S	%Rec	20	12/29/2017 1:25:43 PM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	55	4.8		mg/Kg	1	12/28/2017 2:35:01 AM	35708
Surr: BFB	391	15-316	S	%Rec	1	12/28/2017 2:35:01 AM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	12/28/2017 2:35:01 AM	35708
Benzene	ND	0.024		mg/Kg	1	12/28/2017 2:35:01 AM	35708
Toluene	0.096	0.048		mg/Kg	1	12/28/2017 2:35:01 AM	35708
Ethylbenzene	ND	0.048		mg/Kg	1	12/28/2017 2:35:01 AM	35708
Xylenes, Total	0.53	0.095		mg/Kg	1	12/28/2017 2:35:01 AM	35708
Surr: 4-Bromofluorobenzene	98.6	80-120		%Rec	1	12/28/2017 2:35:01 AM	35708

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** SW6

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 12:53:00 PM

**Lab ID:** 1712E23-006

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	790	30		mg/Kg	20	1/3/2018 9:08:21 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	13000	980		mg/Kg	100	12/29/2017 12:49:23 AM	35724
Motor Oil Range Organics (MRO)	6900	4900		mg/Kg	100	12/29/2017 12:49:23 AM	35724
Surr: DNOP	0	70-130	S	%Rec	100	12/29/2017 12:49:23 AM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	81	24		mg/Kg	5	12/29/2017 10:01:02 AM	35708
Surr: BFB	163	15-316		%Rec	5	12/29/2017 10:01:02 AM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.48		mg/Kg	5	12/28/2017 4:36:32 PM	35708
Benzene	ND	0.12		mg/Kg	5	12/28/2017 4:36:32 PM	35708
Toluene	ND	0.24		mg/Kg	5	12/28/2017 4:36:32 PM	35708
Ethylbenzene	ND	0.24		mg/Kg	5	12/28/2017 4:36:32 PM	35708
Xylenes, Total	ND	0.48		mg/Kg	5	12/28/2017 4:36:32 PM	35708
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	5	12/28/2017 4:36:32 PM	35708

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH2-12'

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 1:08:00 PM

**Lab ID:** 1712E23-007

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1100	75		mg/Kg	50	1/3/2018 9:20:46 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	14000	900		mg/Kg	100	12/29/2017 1:11:12 AM	35724
Motor Oil Range Organics (MRO)	6300	4500		mg/Kg	100	12/29/2017 1:11:12 AM	35724
Surr: DNOP	0	70-130	S	%Rec	100	12/29/2017 1:11:12 AM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	530	47		mg/Kg	10	12/28/2017 3:20:54 AM	35708
Surr: BFB	392	15-316	S	%Rec	10	12/28/2017 3:20:54 AM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.93		mg/Kg	10	12/28/2017 3:20:54 AM	35708
Benzene	0.47	0.23		mg/Kg	10	12/28/2017 3:20:54 AM	35708
Toluene	3.6	0.47		mg/Kg	10	12/28/2017 3:20:54 AM	35708
Ethylbenzene	2.7	0.47		mg/Kg	10	12/28/2017 3:20:54 AM	35708
Xylenes, Total	5.8	0.93		mg/Kg	10	12/28/2017 3:20:54 AM	35708
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	10	12/28/2017 3:20:54 AM	35708

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH2-14'

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 1:20:00 PM

**Lab ID:** 1712E23-008

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	720	30		mg/Kg	20	1/3/2018 9:33:11 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	5100	100		mg/Kg	10	12/29/2017 2:09:41 PM	35724
Motor Oil Range Organics (MRO)	2400	510		mg/Kg	10	12/29/2017 2:09:41 PM	35724
Surr: DNOP	0	70-130	S	%Rec	10	12/29/2017 2:09:41 PM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	220	47		mg/Kg	10	12/28/2017 3:43:46 AM	35708
Surr: BFB	222	15-316		%Rec	10	12/28/2017 3:43:46 AM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.94		mg/Kg	10	12/28/2017 3:43:46 AM	35708
Benzene	ND	0.23		mg/Kg	10	12/28/2017 3:43:46 AM	35708
Toluene	0.87	0.47		mg/Kg	10	12/28/2017 3:43:46 AM	35708
Ethylbenzene	0.89	0.47		mg/Kg	10	12/28/2017 3:43:46 AM	35708
Xylenes, Total	3.4	0.94		mg/Kg	10	12/28/2017 3:43:46 AM	35708
Surr: 4-Bromofluorobenzene	97.3	80-120		%Rec	10	12/28/2017 3:43:46 AM	35708

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** SW7

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 1:22:00 PM

**Lab ID:** 1712E23-009

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	830	30		mg/Kg	20	1/3/2018 9:45:36 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	21000	940		mg/Kg	100	12/29/2017 1:54:48 AM	35724
Motor Oil Range Organics (MRO)	7700	4700		mg/Kg	100	12/29/2017 1:54:48 AM	35724
Surr: DNOP	0	70-130	S	%Rec	100	12/29/2017 1:54:48 AM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	1300	98		mg/Kg	20	12/28/2017 11:51:06 AM	35708
Surr: BFB	484	15-316	S	%Rec	20	12/28/2017 11:51:06 AM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	2.0		mg/Kg	20	12/28/2017 11:51:06 AM	35708
Benzene	ND	0.49		mg/Kg	20	12/28/2017 11:51:06 AM	35708
Toluene	15	0.98		mg/Kg	20	12/28/2017 11:51:06 AM	35708
Ethylbenzene	39	0.98		mg/Kg	20	12/28/2017 11:51:06 AM	35708
Xylenes, Total	120	2.0		mg/Kg	20	12/28/2017 11:51:06 AM	35708
Surr: 4-Bromofluorobenzene	142	80-120	S	%Rec	20	12/28/2017 11:51:06 AM	35708

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH4-4

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 1:34:00 PM

**Lab ID:** 1712E23-010

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	680	30		mg/Kg	20	1/3/2018 9:58:01 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	3400	93		mg/Kg	10	12/29/2017 2:53:46 PM	35724
Motor Oil Range Organics (MRO)	2200	470		mg/Kg	10	12/29/2017 2:53:46 PM	35724
Surr: DNOP	0	70-130	S	%Rec	10	12/29/2017 2:53:46 PM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	17	4.8		mg/Kg	1	12/29/2017 10:24:57 AM	35708
Surr: BFB	162	15-316		%Rec	1	12/29/2017 10:24:57 AM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.097		mg/Kg	1	12/28/2017 7:22:34 PM	35708
Benzene	ND	0.024		mg/Kg	1	12/28/2017 7:22:34 PM	35708
Toluene	0.11	0.048		mg/Kg	1	12/28/2017 7:22:34 PM	35708
Ethylbenzene	0.12	0.048		mg/Kg	1	12/28/2017 7:22:34 PM	35708
Xylenes, Total	0.43	0.097		mg/Kg	1	12/28/2017 7:22:34 PM	35708
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	12/28/2017 7:22:34 PM	35708

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH4-6

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 1:38:00 PM

**Lab ID:** 1712E23-011

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	540	30		mg/Kg	20	1/3/2018 10:35:16 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	17	9.7		mg/Kg	1	12/29/2017 2:38:19 AM	35724
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/29/2017 2:38:19 AM	35724
Surr: DNOP	96.2	70-130		%Rec	1	12/29/2017 2:38:19 AM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/29/2017 10:48:43 AM	35708
Surr: BFB	116	15-316		%Rec	1	12/29/2017 10:48:43 AM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	12/28/2017 5:24:00 PM	35708
Benzene	ND	0.025		mg/Kg	1	12/28/2017 5:24:00 PM	35708
Toluene	ND	0.050		mg/Kg	1	12/28/2017 5:24:00 PM	35708
Ethylbenzene	ND	0.050		mg/Kg	1	12/28/2017 5:24:00 PM	35708
Xylenes, Total	ND	0.099		mg/Kg	1	12/28/2017 5:24:00 PM	35708
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	12/28/2017 5:24:00 PM	35708

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH4-10

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 1:50:00 PM

**Lab ID:** 1712E23-012

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	1/3/2018 10:47:40 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/29/2017 3:00:01 AM	35724
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	12/29/2017 3:00:01 AM	35724
Surr: DNOP	87.5	70-130		%Rec	1	12/29/2017 3:00:01 AM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/29/2017 11:12:32 AM	35708
Surr: BFB	107	15-316		%Rec	1	12/29/2017 11:12:32 AM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	12/28/2017 5:47:41 PM	35708
Benzene	ND	0.024		mg/Kg	1	12/28/2017 5:47:41 PM	35708
Toluene	ND	0.048		mg/Kg	1	12/28/2017 5:47:41 PM	35708
Ethylbenzene	ND	0.048		mg/Kg	1	12/28/2017 5:47:41 PM	35708
Xylenes, Total	ND	0.095		mg/Kg	1	12/28/2017 5:47:41 PM	35708
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	12/28/2017 5:47:41 PM	35708

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

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



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH4-14

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 2:02:00 PM

**Lab ID:** 1712E23-013

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	53	30		mg/Kg	20	1/3/2018 11:00:05 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	53	9.7		mg/Kg	1	12/29/2017 3:21:53 AM	35724
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/29/2017 3:21:53 AM	35724
Surr: DNOP	91.7	70-130		%Rec	1	12/29/2017 3:21:53 AM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/29/2017 11:36:10 AM	35708
Surr: BFB	104	15-316		%Rec	1	12/29/2017 11:36:10 AM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.098		mg/Kg	1	12/28/2017 7:46:18 PM	35708
Benzene	ND	0.025		mg/Kg	1	12/28/2017 7:46:18 PM	35708
Toluene	ND	0.049		mg/Kg	1	12/28/2017 7:46:18 PM	35708
Ethylbenzene	ND	0.049		mg/Kg	1	12/28/2017 7:46:18 PM	35708
Xylenes, Total	ND	0.098		mg/Kg	1	12/28/2017 7:46:18 PM	35708
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	12/28/2017 7:46:18 PM	35708

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH1-4

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 3:15:00 PM

**Lab ID:** 1712E23-014

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1700	75		mg/Kg	50	1/3/2018 11:12:29 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	110	9.4		mg/Kg	1	12/29/2017 3:37:56 PM	35724
Motor Oil Range Organics (MRO)	170	47		mg/Kg	1	12/29/2017 3:37:56 PM	35724
Surr: DNOP	87.9	70-130		%Rec	1	12/29/2017 3:37:56 PM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/29/2017 11:59:59 AM	35708
Surr: BFB	119	15-316		%Rec	1	12/29/2017 11:59:59 AM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.098		mg/Kg	1	12/28/2017 6:11:19 PM	35708
Benzene	ND	0.024		mg/Kg	1	12/28/2017 6:11:19 PM	35708
Toluene	ND	0.049		mg/Kg	1	12/28/2017 6:11:19 PM	35708
Ethylbenzene	ND	0.049		mg/Kg	1	12/28/2017 6:11:19 PM	35708
Xylenes, Total	ND	0.098		mg/Kg	1	12/28/2017 6:11:19 PM	35708
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	12/28/2017 6:11:19 PM	35708

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH1-8'

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 3:23:00 PM

**Lab ID:** 1712E23-015

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	470	30		mg/Kg	20	1/3/2018 11:24:54 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/29/2017 4:05:15 AM	35724
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/29/2017 4:05:15 AM	35724
Surr: DNOP	81.9	70-130		%Rec	1	12/29/2017 4:05:15 AM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/29/2017 12:23:54 PM	35708
Surr: BFB	114	15-316		%Rec	1	12/29/2017 12:23:54 PM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	12/28/2017 6:34:59 PM	35708
Benzene	ND	0.025		mg/Kg	1	12/28/2017 6:34:59 PM	35708
Toluene	ND	0.050		mg/Kg	1	12/28/2017 6:34:59 PM	35708
Ethylbenzene	ND	0.050		mg/Kg	1	12/28/2017 6:34:59 PM	35708
Xylenes, Total	ND	0.10		mg/Kg	1	12/28/2017 6:34:59 PM	35708
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	12/28/2017 6:34:59 PM	35708

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH3-18'

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 3:50:00 PM

**Lab ID:** 1712E23-016

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	410	30		mg/Kg	20	1/3/2018 11:37:19 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	400	9.5		mg/Kg	1	12/29/2017 4:22:03 PM	35724
Motor Oil Range Organics (MRO)	180	48		mg/Kg	1	12/29/2017 4:22:03 PM	35724
Surr: DNOP	97.2	70-130		%Rec	1	12/29/2017 4:22:03 PM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	11	5.0		mg/Kg	1	12/29/2017 12:47:38 PM	35708
Surr: BFB	189	15-316		%Rec	1	12/29/2017 12:47:38 PM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	12/28/2017 8:10:09 PM	35708
Benzene	ND	0.025		mg/Kg	1	12/28/2017 8:10:09 PM	35708
Toluene	ND	0.050		mg/Kg	1	12/28/2017 8:10:09 PM	35708
Ethylbenzene	ND	0.050		mg/Kg	1	12/28/2017 8:10:09 PM	35708
Xylenes, Total	0.25	0.10		mg/Kg	1	12/28/2017 8:10:09 PM	35708
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	12/28/2017 8:10:09 PM	35708

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH3-21

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 3:57:00 PM

**Lab ID:** 1712E23-017

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	400	30		mg/Kg	20	1/3/2018 11:49:43 PM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	1500	100		mg/Kg	10	12/29/2017 4:48:46 AM	35724
Motor Oil Range Organics (MRO)	640	510		mg/Kg	10	12/29/2017 4:48:46 AM	35724
Surr: DNOP	0	70-130	S	%Rec	10	12/29/2017 4:48:46 AM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	140	24		mg/Kg	5	12/29/2017 1:11:31 PM	35708
Surr: BFB	293	15-316		%Rec	5	12/29/2017 1:11:31 PM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.097		mg/Kg	1	12/28/2017 6:58:46 PM	35708
Benzene	ND	0.024		mg/Kg	1	12/28/2017 6:58:46 PM	35708
Toluene	0.14	0.048		mg/Kg	1	12/28/2017 6:58:46 PM	35708
Ethylbenzene	0.38	0.048		mg/Kg	1	12/28/2017 6:58:46 PM	35708
Xylenes, Total	4.1	0.097		mg/Kg	1	12/28/2017 6:58:46 PM	35708
Surr: 4-Bromofluorobenzene	139	80-120	S	%Rec	1	12/28/2017 6:58:46 PM	35708

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH2-18

**Project:** Mobile CI #4 Pipeline

**Collection Date:** 12/21/2017 4:34:00 PM

**Lab ID:** 1712E23-018

**Matrix:** SOIL

**Received Date:** 12/23/2017 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1000	30		mg/Kg	20	1/4/2018 12:02:08 AM	35776
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	6800	100		mg/Kg	10	12/29/2017 5:06:15 PM	35724
Motor Oil Range Organics (MRO)	2600	500		mg/Kg	10	12/29/2017 5:06:15 PM	35724
Surr: DNOP	0	70-130	S	%Rec	10	12/29/2017 5:06:15 PM	35724
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	570	46		mg/Kg	10	12/28/2017 1:50:39 PM	35708
Surr: BFB	415	15-316	S	%Rec	10	12/28/2017 1:50:39 PM	35708
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.92		mg/Kg	10	12/28/2017 1:50:39 PM	35708
Benzene	0.69	0.23		mg/Kg	10	12/28/2017 1:50:39 PM	35708
Toluene	8.8	0.46		mg/Kg	10	12/28/2017 1:50:39 PM	35708
Ethylbenzene	14	0.46		mg/Kg	10	12/28/2017 1:50:39 PM	35708
Xylenes, Total	33	0.92		mg/Kg	10	12/28/2017 1:50:39 PM	35708
Surr: 4-Bromofluorobenzene	134	80-120	S	%Rec	10	12/28/2017 1:50:39 PM	35708

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1712E23

04-Jan-18

Client: Souder, Miller &amp; Associates

Project: Mobile CI #4 Pipeline

Sample ID	MB-35776		SampType: mblk		TestCode: EPA Method 300.0: Anions					
Client ID:	PBS		Batch ID: 35776		RunNo: 48126					
Prep Date:	12/29/2017		Analysis Date: 1/2/2018		SeqNo: 1545523		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-35776		SampType: lcs		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 35776		RunNo: 48126					
Prep Date:	12/29/2017		Analysis Date: 1/2/2018		SeqNo: 1545524		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.1	90	110			

### Qualifiers:

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1712E23

04-Jan-18

Client: Souder, Miller &amp; Associates

Project: Mobile CI #4 Pipeline

Sample ID	LCS-35724		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 35724		RunNo: 48061					
Prep Date:	12/27/2017		Analysis Date: 12/28/2017		SeqNo: 1541392		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.3	73.2	114			
Surr: DNOP	4.2		5.000		83.7	70	130			

Sample ID	MB-35724		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 35724		RunNo: 48061					
Prep Date:	12/27/2017		Analysis Date: 12/28/2017		SeqNo: 1541393		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.5		10.00		85.4	70	130			

Sample ID	LCS-35758		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 35758		RunNo: 48061					
Prep Date:	12/28/2017		Analysis Date: 12/29/2017		SeqNo: 1542276		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.1		5.000		82.3	70	130			

Sample ID	MB-35758		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 35758		RunNo: 48061					
Prep Date:	12/28/2017		Analysis Date: 12/29/2017		SeqNo: 1542278		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.3		10.00		83.4	70	130			

### Qualifiers:

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

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



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1712E23

04-Jan-18

Client: Souder, Miller &amp; Associates

Project: Mobile CI #4 Pipeline

Sample ID	MB-35708		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 35708		RunNo: 48031					
Prep Date:	12/26/2017		Analysis Date: 12/27/2017		SeqNo: 1539764		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	770		1000		77.1	15	316			

Sample ID	LCS-35708		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 35708		RunNo: 48031					
Prep Date:	12/26/2017		Analysis Date: 12/27/2017		SeqNo: 1539765		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	106	75.9	131			
Surr: BFB	920		1000		91.9	15	316			

### Qualifiers:

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1712E23

04-Jan-18

Client: Souder, Miller &amp; Associates

Project: Mobile CI #4 Pipeline

Sample ID	MB-35708		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 35708		RunNo: 48031					
Prep Date:	12/26/2017		Analysis Date: 12/27/2017		SeqNo: 1539795		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.89		1.000		89.0	80	120			

Sample ID	LCS-35708		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 35708		RunNo: 48031					
Prep Date:	12/26/2017		Analysis Date: 12/27/2017		SeqNo: 1539796		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.96	0.10	1.000	0	96.0	70.1	121			
Benzene	0.86	0.025	1.000	0	85.8	77.3	128			
Toluene	0.92	0.050	1.000	0	92.4	79.2	125			
Ethylbenzene	0.88	0.050	1.000	0	88.1	80.7	127			
Xylenes, Total	2.7	0.10	3.000	0	88.4	81.6	129			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

### Qualifiers:

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



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

## Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1712E23

RcptNo: 1

Received By: Andy Freeman

12/23/2017 8:30:00 AM

Completed By: Michelle Garcia

12/28/2017 9:19:52 AM

Reviewed By:

### Chain of Custody

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

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Yes			









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

March 02, 2018

Austin Weyant  
Souder, Miller & Associates  
201 S Halagueno  
Carlsbad, NM 88221  
TEL: (575) 689-7040  
FAX

RE: Mobil C1 4 Pipeline

OrderNo.: 1802D04

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 5 sample(s) on 2/23/2018 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 **1802D04**

Date Reported: **3/2/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH2-20'

**Project:** Mobil CI 4 Pipeline

**Collection Date:** 2/21/2018 11:20:00 AM

**Lab ID:** 1802D04-001

**Matrix:** SOIL

**Received Date:** 2/23/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	460	30		mg/Kg	20	3/1/2018 1:43:45 PM	36786
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	2000	97		mg/Kg	10	2/27/2018 8:01:10 PM	36722
Motor Oil Range Organics (MRO)	970	480		mg/Kg	10	2/27/2018 8:01:10 PM	36722
Surr: DNOP	0	70-130	S	%Rec	10	2/27/2018 8:01:10 PM	36722
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	46	24		mg/Kg	5	2/26/2018 8:18:04 PM	36697
Surr: BFB	174	15-316		%Rec	5	2/26/2018 8:18:04 PM	36697
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.48	D	mg/Kg	5	2/26/2018 8:18:04 PM	36697
Benzene	ND	0.12	D	mg/Kg	5	2/26/2018 8:18:04 PM	36697
Toluene	ND	0.24	D	mg/Kg	5	2/26/2018 8:18:04 PM	36697
Ethylbenzene	ND	0.24	D	mg/Kg	5	2/26/2018 8:18:04 PM	36697
Xylenes, Total	1.1	0.48	D	mg/Kg	5	2/26/2018 8:18:04 PM	36697
Surr: 4-Bromofluorobenzene	91.7	80-120	D	%Rec	5	2/26/2018 8:18:04 PM	36697

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1802D04**

Date Reported: **3/2/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH2-25'

**Project:** Mobil CI 4 Pipeline

**Collection Date:** 2/21/2018 11:40:00 AM

**Lab ID:** 1802D04-002

**Matrix:** SOIL

**Received Date:** 2/23/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/1/2018 1:56:10 PM	36786
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	2/27/2018 8:28:26 PM	36722
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	2/27/2018 8:28:26 PM	36722
Surr: DNOP	90.0	70-130		%Rec	1	2/27/2018 8:28:26 PM	36722
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/26/2018 9:04:43 PM	36697
Surr: BFB	89.9	15-316		%Rec	1	2/26/2018 9:04:43 PM	36697
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	2/26/2018 9:04:43 PM	36697
Benzene	ND	0.024		mg/Kg	1	2/26/2018 9:04:43 PM	36697
Toluene	ND	0.048		mg/Kg	1	2/26/2018 9:04:43 PM	36697
Ethylbenzene	ND	0.048		mg/Kg	1	2/26/2018 9:04:43 PM	36697
Xylenes, Total	ND	0.095		mg/Kg	1	2/26/2018 9:04:43 PM	36697
Surr: 4-Bromofluorobenzene	87.5	80-120		%Rec	1	2/26/2018 9:04:43 PM	36697

Refer to the QC Summary report and sample login 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 2 of 9
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1802D04**

Date Reported: **3/2/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH2-30'

**Project:** Mobil CI 4 Pipeline

**Collection Date:** 2/21/2018 11:50:00 AM

**Lab ID:** 1802D04-003

**Matrix:** SOIL

**Received Date:** 2/23/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/1/2018 2:08:35 PM	36786
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	2/27/2018 8:55:55 PM	36722
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/27/2018 8:55:55 PM	36722
Surr: DNOP	92.3	70-130		%Rec	1	2/27/2018 8:55:55 PM	36722
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/26/2018 10:38:11 PM	36697
Surr: BFB	94.3	15-316		%Rec	1	2/26/2018 10:38:11 PM	36697
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.094		mg/Kg	1	2/26/2018 10:38:11 PM	36697
Benzene	ND	0.023		mg/Kg	1	2/26/2018 10:38:11 PM	36697
Toluene	ND	0.047		mg/Kg	1	2/26/2018 10:38:11 PM	36697
Ethylbenzene	ND	0.047		mg/Kg	1	2/26/2018 10:38:11 PM	36697
Xylenes, Total	ND	0.094		mg/Kg	1	2/26/2018 10:38:11 PM	36697
Surr: 4-Bromofluorobenzene	91.8	80-120		%Rec	1	2/26/2018 10:38:11 PM	36697

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

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1802D04**

Date Reported: **3/2/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH2-40'

**Project:** Mobil CI 4 Pipeline

**Collection Date:** 2/21/2018 12:17:00 PM

**Lab ID:** 1802D04-004

**Matrix:** SOIL

**Received Date:** 2/23/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/1/2018 2:20:59 PM	36786
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	2/27/2018 9:24:15 PM	36722
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/27/2018 9:24:15 PM	36722
Surr: DNOP	94.5	70-130		%Rec	1	2/27/2018 9:24:15 PM	36722
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/26/2018 11:01:30 PM	36697
Surr: BFB	88.9	15-316		%Rec	1	2/26/2018 11:01:30 PM	36697
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	2/26/2018 11:01:30 PM	36697
Benzene	ND	0.025		mg/Kg	1	2/26/2018 11:01:30 PM	36697
Toluene	ND	0.050		mg/Kg	1	2/26/2018 11:01:30 PM	36697
Ethylbenzene	ND	0.050		mg/Kg	1	2/26/2018 11:01:30 PM	36697
Xylenes, Total	ND	0.099		mg/Kg	1	2/26/2018 11:01:30 PM	36697
Surr: 4-Bromofluorobenzene	88.0	80-120		%Rec	1	2/26/2018 11:01:30 PM	36697

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 4 of 9
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1802D04**

Date Reported: **3/2/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** BH2-50'

**Project:** Mobil CI 4 Pipeline

**Collection Date:** 2/21/2018 12:36:00 PM

**Lab ID:** 1802D04-005

**Matrix:** SOIL

**Received Date:** 2/23/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/1/2018 2:33:23 PM	36786
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/27/2018 9:51:19 PM	36722
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/27/2018 9:51:19 PM	36722
Surr: DNOP	86.6	70-130		%Rec	1	2/27/2018 9:51:19 PM	36722
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/26/2018 11:24:49 PM	36697
Surr: BFB	90.9	15-316		%Rec	1	2/26/2018 11:24:49 PM	36697
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.093		mg/Kg	1	2/26/2018 11:24:49 PM	36697
Benzene	ND	0.023		mg/Kg	1	2/26/2018 11:24:49 PM	36697
Toluene	ND	0.047		mg/Kg	1	2/26/2018 11:24:49 PM	36697
Ethylbenzene	ND	0.047		mg/Kg	1	2/26/2018 11:24:49 PM	36697
Xylenes, Total	ND	0.093		mg/Kg	1	2/26/2018 11:24:49 PM	36697
Surr: 4-Bromofluorobenzene	88.0	80-120		%Rec	1	2/26/2018 11:24:49 PM	36697

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 5 of 9
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1802D04

02-Mar-18

Client: Souder, Miller &amp; Associates

Project: Mobil Cl 4 Pipeline

Sample ID	MB-36786		SampType:	mblk		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS		Batch ID:	36786		RunNo:	49482				
Prep Date:	3/1/2018		Analysis Date:	3/1/2018		SeqNo:	1599880		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	ND	1.5									

Sample ID	LCS-36786		SampType:	lcs		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS		Batch ID:	36786		RunNo:	49482				
Prep Date:	3/1/2018		Analysis Date:	3/1/2018		SeqNo:	1599881		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	14	1.5	15.00	0	93.9	90	110				

### Qualifiers:

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1802D04

02-Mar-18

Client: Souder, Miller &amp; Associates

Project: Mobil C1 4 Pipeline

Sample ID	LCS-36722		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 36722		RunNo: 49399					
Prep Date:	2/26/2018		Analysis Date: 2/27/2018		SeqNo: 1595181		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	84.7	70	130			
Surr: DNOP	4.3		5.000		86.7	70	130			

Sample ID	MB-36722		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 36722		RunNo: 49399					
Prep Date:	2/26/2018		Analysis Date: 2/27/2018		SeqNo: 1595182		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.7		10.00		87.1	70	130			

### Qualifiers:

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1802D04

02-Mar-18

Client: Souder, Miller &amp; Associates

Project: Mobil Cl 4 Pipeline

Sample ID	MB-36697		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 36697		RunNo: 49378					
Prep Date:	2/23/2018		Analysis Date: 2/26/2018		SeqNo: 1594725		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		101	15	316			

Sample ID	LCS-36697		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 36697		RunNo: 49379					
Prep Date:	2/23/2018		Analysis Date: 2/26/2018		SeqNo: 1594780		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	84.2	75.9	131			
Surr: BFB	1000		1000		105	15	316			

### Qualifiers:

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1802D04

02-Mar-18

Client: Souder, Miller &amp; Associates

Project: Mobil Cl 4 Pipeline

Sample ID	MB-36697		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 36697		RunNo: 49378					
Prep Date:	2/23/2018		Analysis Date: 2/26/2018		SeqNo: 1594752		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		99.2	80	120			

Sample ID	LCS-36697		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 36697		RunNo: 49378					
Prep Date:	2/23/2018		Analysis Date: 2/26/2018		SeqNo: 1594753		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.0	0.10	1.000	0	101	70.1	121			
Benzene	1.1	0.025	1.000	0	107	77.3	128			
Toluene	1.1	0.050	1.000	0	106	79.2	125			
Ethylbenzene	1.0	0.050	1.000	0	105	80.7	127			
Xylenes, Total	3.2	0.10	3.000	0	108	81.6	129			
Surr: 4-Bromofluorobenzene	0.99		1.000		98.8	80	120			

### Qualifiers:

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

## Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1802D04

RcptNo: 1

Received By: Dennis Suazo 2/23/2018 9:35:00 AM

Completed By: Dennis Suazo 2/23/2018 12:18:01 PM

Reviewed By: *[Signature]* 02/23/18  
Labeled By: see 02/23/18

### Chain of Custody

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

### Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐  
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $5.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐  
5. Sample(s) in proper container(s)? Yes ☒ No ☐  
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐  
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐  
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐  
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒  
10. Were any sample containers received broken? Yes ☐ No ☒  
11. Does paperwork match bottle labels? Yes ☒ No ☐  
(Note discrepancies on chain of custody)  
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐  
13. Is it clear what analyses were requested? Yes ☒ No ☐  
14. 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)

15. 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: \_\_\_\_\_

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.5	Good	Not Present			



