



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.

Soil Remediation Standards	0 to 9	10 to 19	>19
Benzene	10 PPM	10 PPM	10 PPM
BTEX	50 PPM	50 PPM	50 PPM
TPH	5000 PPM	1000 PPM	100 PPM

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

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.

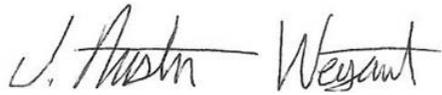
All confirmation samples will be for chloride and sent to the lab for analyses of chlorides by Method 300.0, volatile organics (BTEX) by Method 8021B, and MRO, DRO, and GRO by EPA Method 8015D. Approximately 652 cubic yards of contaminated soil are projected to be removed and replaced with clean backfill 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



Austin Weyant
Project Scientist

Reviewed by:



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

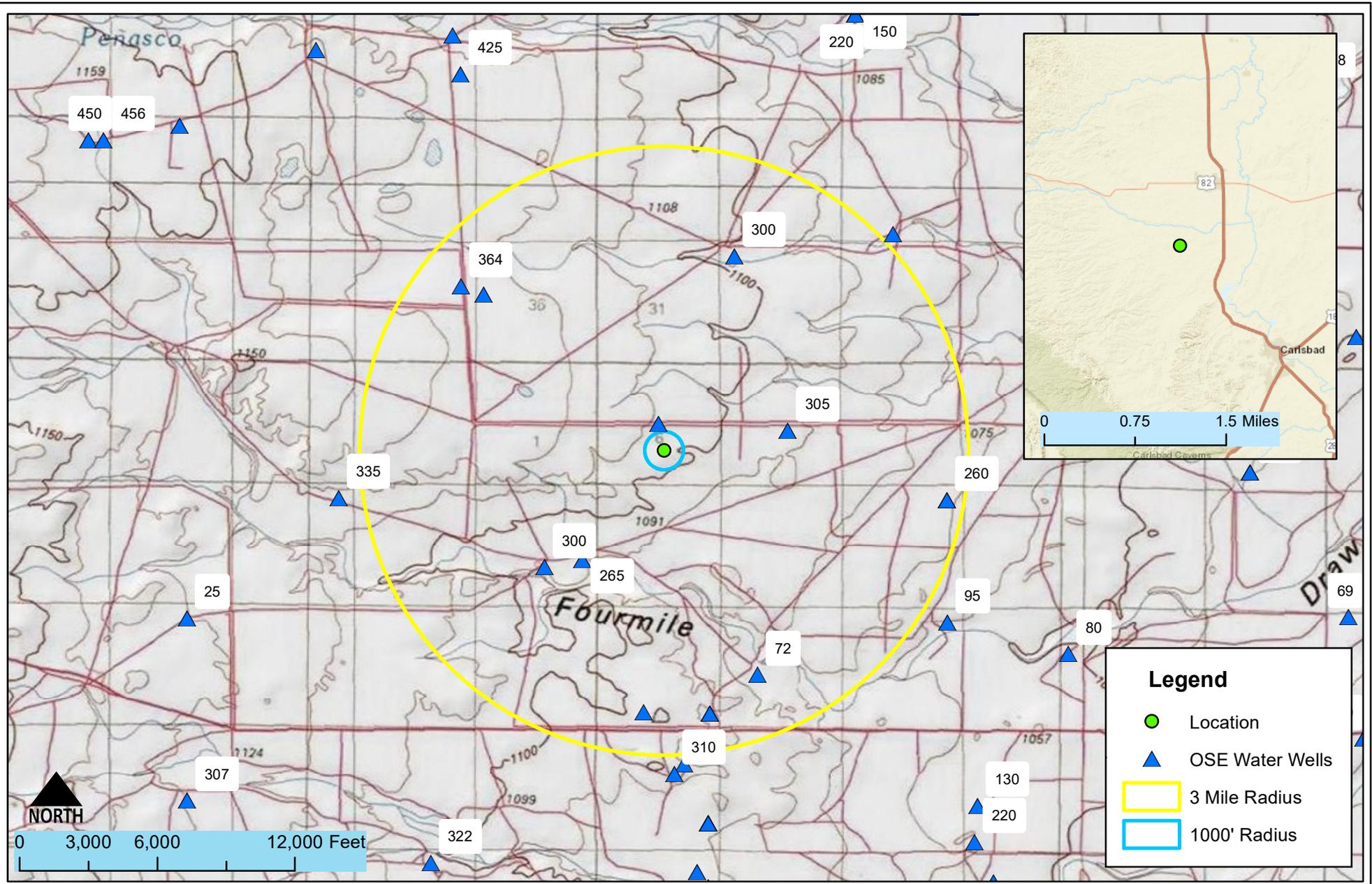
Appendices:

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

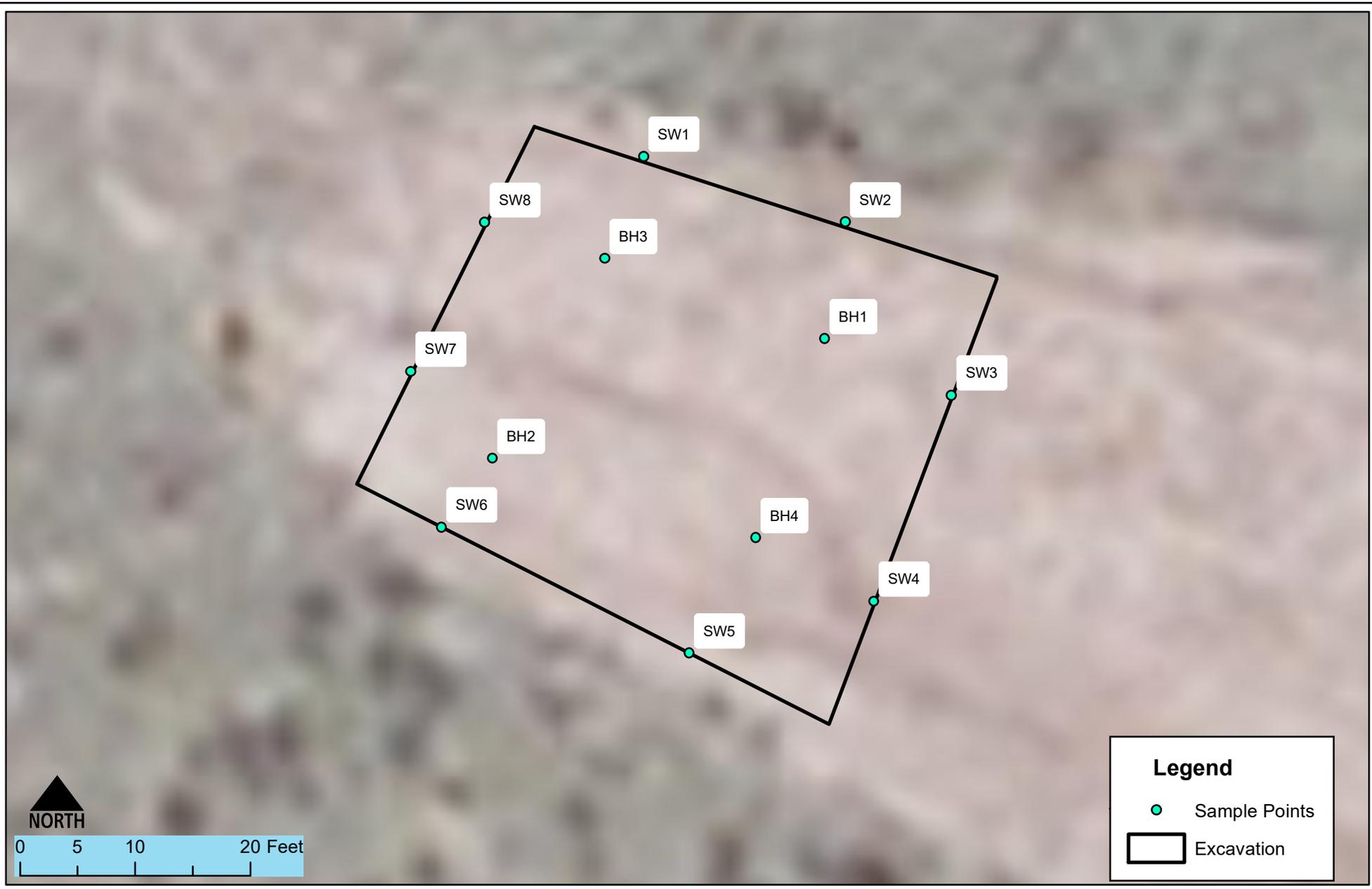
By: _____	Date: _____	Revisions	Descr: _____
By: _____	Date: _____		Descr: _____
Copyright 2015 Souder, Miller & Associates - All Rights Reserved			

Drawn	<u>Melodie Sanjari</u>
Checked	_____
Approved	_____



201 South Halaguena Street
 Carlsbad, New Mexico 88221
 (575) 689-7040
 www.soudermiller.com
 Serving the Southwest & Rocky Mountains

FIGURE 2
SITE AND SAMPLE
LOCATION MAP



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

Figure 2

Revisions
 By: _____ Date: _____ Descr: _____
 By: _____ Date: _____ Descr: _____
 Copyright 2015 Souder, Miller & Associates - All Rights Reserved

Drawn ^{NM} Melodie Sanjari _____
 Checked _____
 Approved _____



201 South Halaguena Street
 Carlsbad, New Mexico 88221
 (575) 689-7040
 www.soudermiller.com
 Serving the Southwest & Rocky Mountains

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	990
SW1	12/21/2017	5 to 7	sidewall	321.5	0.51	2000	17000	6400	25400	1100
SW6	12/5/2017	2 to 3	sidewall	<0.208	<0.023	8.6	6300	3300	9608.6	1600
SW6	12/21/2017	5 to 7	sidewall	<1.08	<0.12	81	13000	6900	19981	790
SW7	12/5/2017	2 to 3	sidewall	<0.212	<0.024	<4.7	2100	2200	4300	960
SW7	12/21/2017	5 to 7	sidewall	174	<0.49	1300	21000	7700	30000	830
SW8	12/21/2017	5 to 7	sidewall	0.626	<0.024	55	7400	4200	11655	1300
BH1	12/5/2017	3	excavate	<0.207	<0.023	<4.6	210	540	750	940
BH1	12/21/2017	4	excavate	<0.098	<0.024	<4.9	110	170	280	1700
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	76.74	0.24	990	7100	2400	10490	1300
BH2	12/21/2017	12	excavate	12.57	0.47	530	14000	6300	20830	1100
BH2	12/21/2017	14	excavate	5.16	<0.23	220	5100	2400	7720	720
BH2	12/21/2017	18	excavate	56.49	0.69	570	6800	2600	9970	1000
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	107.3	<0.46	1600	12000	4000	17600	1100
BH3	12/21/2017	10	excavate	56	<0.49	880	6100	2400	9380	760
BH3	12/21/2017	14	excavate	86.56	0.15	990	9300	3400	13690	710
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	5617	680
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 <i>25575</i>	Contact: Chase Settle
Address: 104 South 4 th 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
------------------------	------------------------	----------------------

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-foot 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: <i>11/16/18</i>	Expiration Date: <i>N/A</i>
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
RA 05331			ED	1	1	4	05	19S	25E	546308	3616955*	1668	460	305	155
RA 03959			ED		2	4	12	19S	24E	543589	3615225*	1812	545	265	280
RA 06436			ED	3	1	4	12	19S	24E	543083	3615122*	2222		300	
RA 04335			CH		1	1	32	18S	25E	545580	3619275*	2746	400	300	100
RA 08148			ED	3	3	1	36	18S	24E	542252	3618748*	3170	508		
RA 06418			ED	1	2	3	17	19S	25E	545925	3613710*	3234	120	72	48
RA 11061 POD1			ED		4	2	35	18S	24E	541949	3618852*	3470	450	364	86
RA 04426			CH		4	3	18	19S	25E	544412	3613201*	3494	715		
RA 05333			ED	2	2	09	19S	25E	548430	3616046*	3823	315	260	55	
RA 11654 POD1			ED	3	2	19	19S	25E	544959	3612514	4182	500			
RA 08146			ED	4	4	3	28	18S	25E	547693	3619576*	4188	400		
RA 04726			ED		3	2	19	19S	25E	544825	3612390*	4300	390	310	80
RA 03960			ED	2	2	10	19S	24E	540341	3616025*	4370	440	335	105	
RA 05900			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

UTMNAD83 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

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

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	990	30		mg/Kg	20	12/15/2017 12:59:14 PM	35535
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

Qualifiers:	* 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 CI 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1600	75		mg/Kg	50	12/15/2017 3:03:20 PM	35535
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	960	30		mg/Kg	20	12/15/2017 1:24:02 PM	35535
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	940	30		mg/Kg	20	12/15/2017 1:36:27 PM	35535
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1300	75		mg/Kg	50	12/15/2017 3:15:44 PM	35535
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1712481

18-Dec-17

Client: Souder, Miller & 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 & 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 & 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 & 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

EM

Completed By: Isaiah Ortiz

12/8/2017 10:47:33 AM

IO

Reviewed By: ENM

12/8/17

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			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: 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 or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1100	30		mg/Kg	20	1/3/2018 8:06:16 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	760	30		mg/Kg	20	1/3/2018 8:18:42 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1100	75		mg/Kg	50	1/3/2018 8:31:07 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	710	30		mg/Kg	20	1/3/2018 8:43:31 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, Inc.

Analytical Report

Lab Order 1712E23

Date Reported: 1/4/2018

CLIENT: Souder, Miller & 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1300	75		mg/Kg	50	1/3/2018 8:55:56 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	790	30		mg/Kg	20	1/3/2018 9:08:21 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1100	75		mg/Kg	50	1/3/2018 9:20:46 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	720	30		mg/Kg	20	1/3/2018 9:33:11 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	830	30		mg/Kg	20	1/3/2018 9:45:36 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	680	30		mg/Kg	20	1/3/2018 9:58:01 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	540	30		mg/Kg	20	1/3/2018 10:35:16 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	1/3/2018 10:47:40 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	53	30		mg/Kg	20	1/3/2018 11:00:05 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1700	75		mg/Kg	50	1/3/2018 11:12:29 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	470	30		mg/Kg	20	1/3/2018 11:24:54 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	410	30		mg/Kg	20	1/3/2018 11:37:19 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	400	30		mg/Kg	20	1/3/2018 11:49:43 PM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1000	30		mg/Kg	20	1/4/2018 12:02:08 AM	35776
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1712E23

04-Jan-18

Client: Souder, Miller & 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 & 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 & 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. | 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 & 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.
- 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



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

Andy Freeman

Completed By: **Michelle Garcia**

12/28/2017 9:19:52 AM

Michelle Garcia

Reviewed By:

[Signature]

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:	<input type="text"/>
(<2 or >12 unless noted)	
Adjusted?	<input type="text"/>
Checked by:	<input type="text"/>

Special Handling (if applicable)

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

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

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Yes			

Chain-of-Custody Record

Client: SMA - Carlisbad

Mailing Address: 201 S. Hualaques

Phone #:

email or Fax#:

QA/QC Package:

Standard Level 4 (Full Validation)

Accreditation

NELAP Other

EDD (Type)

Turn-Around Time: EOG

Standard Rush

5 day turn

Project Name:

Mobile CI #4 Pipeline

Project #:

Project Manager:

Austin Weyant

Sampler: MS/Thrup

On Ice: Yes No

Sample Temperature: 1.9 +0.1: 2.0°C

Container Type and #

407

Preservative Type

HEAL No. 1712523

Date Time Matrix Sample Request ID

12/21/17	11:31	Soil	BH3-6'
11:45			BH3-10'
11:47			SW1
12:02			BH3-14'
12:07			SW8
12:53			SW6
1:08			BH2-12'
1:20			BH2-14'
1:22			SW7
1:34			BH4-4
1:38			BH4-6
1:50			BH4-10

Date: 12/21/17 Time: 8:30

Date: 12/21/17 Time: 1:00

Received by: [Signature]

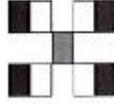
Received by: [Signature]

Date: 12/21/17 Time: 0830

Date: 12/23/17 Time: 0830

Remarks:

EOG Page 1 of 2



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

<input checked="" type="checkbox"/> BTEX + MTBE + TMB's (8021)	<input checked="" type="checkbox"/> BTEX + MTBE + TPH (Gas only)	<input checked="" type="checkbox"/> TPH 8015B (GRO / DRO / MRO)	<input checked="" type="checkbox"/> TPH (Method 418.1)	<input checked="" type="checkbox"/> EDB (Method 504.1)	<input checked="" type="checkbox"/> PAH's (8310 or 8270 SIMS)	<input checked="" type="checkbox"/> RCRA 8 Metals	<input checked="" type="checkbox"/> Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	<input checked="" type="checkbox"/> 8081 Pesticides / 8082 PCB's	<input checked="" type="checkbox"/> 8260B (VOA)	<input checked="" type="checkbox"/> 8270 (Semi-VOA)	<input type="checkbox"/> Air Bubbles (Y or N)
--	--	---	--	--	---	---	--	--	---	---	---

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

Chain-of-Custody Record

Client: SMA-Cansbad

Mailing Address: 201 S. Arroyo

Phone #:

email or Fax#:

QA/QC Package:

Standard Level 4 (Full Validation)

Accreditation

NELAP Other

EDD (Type)

Turn-Around Time: EOG
 Standard Rush 5 day

Project Name: Mobil C1 #4 Pipeline

Project #:

Project Manager: Austin Weyant

Sampler: MPS/Hul

On Ice: Yes No

Sample Temperature: 7.9 + 0.1 = 2.0 °C

Container Type and # A02

Preservative Type

HEAL No. 1712E23

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, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
	X		X					X				
	X		X					X				
	X		X					X				
	X		X					X				
	X		X					X				
	X		X					X				
	X		X					X				

Date: 12/21/17 Time: 2:02 Relinquished by: MJ
 Date: 12/21/17 Time: 4:30 Relinquished by: [Signature]
 Date: 12/21/17 Time: 19:00 Relinquished by: [Signature]
 Received by: [Signature] Date: 12/21/17 Time: 08:00
 Received by: [Signature] Date: 12/23/17 Time: 09:30

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



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

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

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	460	30		mg/Kg	20	3/1/2018 1:43:45 PM	36786
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	3/1/2018 1:56:10 PM	36786
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	3/1/2018 2:08:35 PM	36786
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	3/1/2018 2:20:59 PM	36786
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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, 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	3/1/2018 2:33:23 PM	36786
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1802D04

02-Mar-18

Client: Souder, Miller & Associates

Project: Mobil Cl 4 Pipeline

Sample ID	MB-36786	SampType:	mbk	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 & 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. | 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#: 1802D04

02-Mar-18

Client: Souder, Miller & Associates

Project: Mobil C1 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. | 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#: 1802D04

02-Mar-18

Client: Souder, Miller & 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

Dennis Suazo

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

Dennis Suazo

Reviewed By: *ASJ 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° C to 5.0°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: <input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding: _____	
Client Instructions: _____	

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.5	Good	Not Present			

Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address: 201 S. Halaguecho

Phone #: _____

email or Fax#: _____

QA/QC Package:

Standard Level 4 (Full Validation)

Accreditation

NELAP Other _____

EDD (Type) _____

Turn-Around Time: _____

Standard Rush 5 day

Project Name: Mobil CI #4 Pipeline

Project #: _____

Project Manager: Austin Weyant

Sampler: NRS LEM

On Ice: Yes No

Sample Temperature: 2.5

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
2/24/18	11:20	soil	BH2-20'	402		1802D04
	11:40		BH2-25'			001
	11:50		BH2-30'			002
			BH2-35'			003
	12:17		BH2-70'			004
	12:36		BH2-50'			005

Date: 2-22-18 Time: 1600 Relinquished by: M Panjani

Date: 2/23/18 Time: 1900 Relinquished by: SP

Received by: SP Date: 2/22/18 Time: 1600

Received by: DISP Date: 2/23/18 Time: 0835



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87109
 Tel. 505-345-3975 Fax 505-345-4107

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

Remarks: Eog 100/

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.