



Souder, Miller & Associates ♦ 201 S. Halagueno St. ♦ Carlsbad, NM 88220  
(575) 689-8801

July 11, 2018

#5E26784-BG8

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

SUBJECT: SOIL REMEDIATION CLOSURE REPORT FOR THE POKER LAKE UNIT CVX JV BS #010H (2RP-4666), EDDY COUNTY, NEW MEXICO

Dear Mr. Bratcher:

On behalf of XTO Energy Inc (XTO), Souder, Miller & Associates (SMA) has prepared this CLOSURE REPORT that describes the assessment, delineation, and remediation for a release associated with the Poker Lake Unit CVX JV BS #010H . The site is located in UNIT J, SECTION 25, TOWNSHIP 24S, RANGE 30E, Eddy County, New Mexico, on Federal land. Figure 1 illustrates the vicinity and location of the site. Table 1 summarizes the release information.

Table 1: Release Information and Site Ranking	
Name	Poker Lake Unit CVX JV BS #010H
Company	XTO Energy Inc
Incident Number	2RP-4666
API Number	30-015-39846
Location	32.185566, -103.831580
Estimated Date of Release	3/4/2018
Date Reported to NMOCD	3/4/2018
Land Owner	Federal
Reported To	NMOCD District II
Source of Release	Flowline
Released Material	Produced Water & Crude Oil
Released Volume	67 bbl
Recovered Volume	65 bbl
Net Release	2 bbl
Nearest Waterway	2.7 miles northwest of Dog Town Draw
Depth to Groundwater	Greater than 100 feet bgs
Nearest Domestic Water Source	Greater than 1000 feet
NMOCD Ranking	0
SMA Response Dates	3/5/2018, 4/12/18, 6/5/2018, 6/6/2018

Poker Lake Unit CVX JV BS #010H 2RP-4666  
July 11, 2018

Page 2 of 4

## **1.0 Background**

On March 4, 2018, a buried steel line developed a leak due to corrosion. A hole was excavated to expose the leak and recover escaping fluids while the line was being clamped. A vacuum truck was dispatched immediately after discovery and was able to recover fluids and minimize surface area impacts. The line was later repaired. The release affected approximately 550 square feet of lease road and approximately 175 square feet of pasture.

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

The release site is located approximately 28.6 miles southeast of Carlsbad, with an elevation of approximately 3,472 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. Only four wells are located within a three-mile radius of the site, all of which represent soil borings installed for site delineations and did not encounter water. 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
<b>Benzene</b>	<b>10 PPM</b>	<b>10 PPM</b>	<b>10 PPM</b>
<b>BTEX</b>	<b>50 PPM</b>	<b>50 PPM</b>	<b>50 PPM</b>
<b>TPH</b>	<b>5000 PPM</b>	<b>1000 PPM</b>	<b>100 PPM</b>

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
<b>Total Site Ranking</b>	<b>0</b>

Poker Lake Unit CVX JV BS #010H 2RP-4666  
July 11, 2018

Page 3 of 4

### **3.0 Release Characterization**

On March 5, 2018, SMA field personnel mobilized to assess the release area. Upon arrival, the line had been repaired and the excavation remained open across the right-of-way (ROW) and the lease road. Six sidewall samples (SW1-SW6) from around the excavation were collected to characterize the release, along with two bottom hole samples (BH1 and BH2) from beneath the pipeline at 3.8 feet bgs. Due to safety issues with an open excavation, and blocking access of the lease road, it was backfilled with clean caliche to return the surface to previous contours until laboratory results were returned and further action could be planned.

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 analysis for MRO, DRO, and GRO by EPA Method 8015D, BTEX by EPA Method 8021, and Chlorides by Method 300. The release area, excavated area, and sample location are depicted on Figure 2. All laboratory results are summarized in Table 3. Laboratory reports are included in Appendix C.

### **4.0 Soil Remediation**

Sample results from March 5, 2018 indicated that contamination extends beyond the 3.8-foot bgs depth of the excavation, and laterally in each direction from the point of release. On June 6, 2018, after 811 clearance, SMA returned to the location to further delineate the release area and to guide the excavation where necessary.

Due to the presence of several buried gas and SWD lines and steel surface lines, excavation was completed with a hydrovac to the maximum extent safely possible. Refusal was reached at locations BH1 and BH2 at six feet bgs and four feet bgs, respectively, and rock samples were collected. The excavation was also expanded laterally. Six confirmation sidewall samples were collected to demonstrate horizontal delineation.

As summarized in Table 3, all confirmation samples were within NMOCD RRAL's. Contaminated soils were removed and replaced with clean backfill material to return the surface to previous contours. The contaminated soil was transported for proper disposal at an NMOCD permitted disposal facility. Sample locations are depicted on Figure 2. Laboratory reports are included in Appendix C.

Poker Lake Unit CVX JV BS #010H 2RP-4666  
July 11, 2018

Page 4 of 4

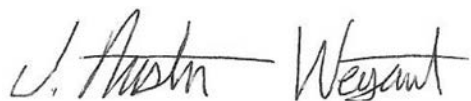
## **5.0 Scope and Limitations**

The scope of our services consisted of the performance of assessment sampling, verification of release stabilization, regulatory liaison, remediation, and preparation of this closure report. 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

Reviewed by:



Austin Weyant  
Project Scientist



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:**

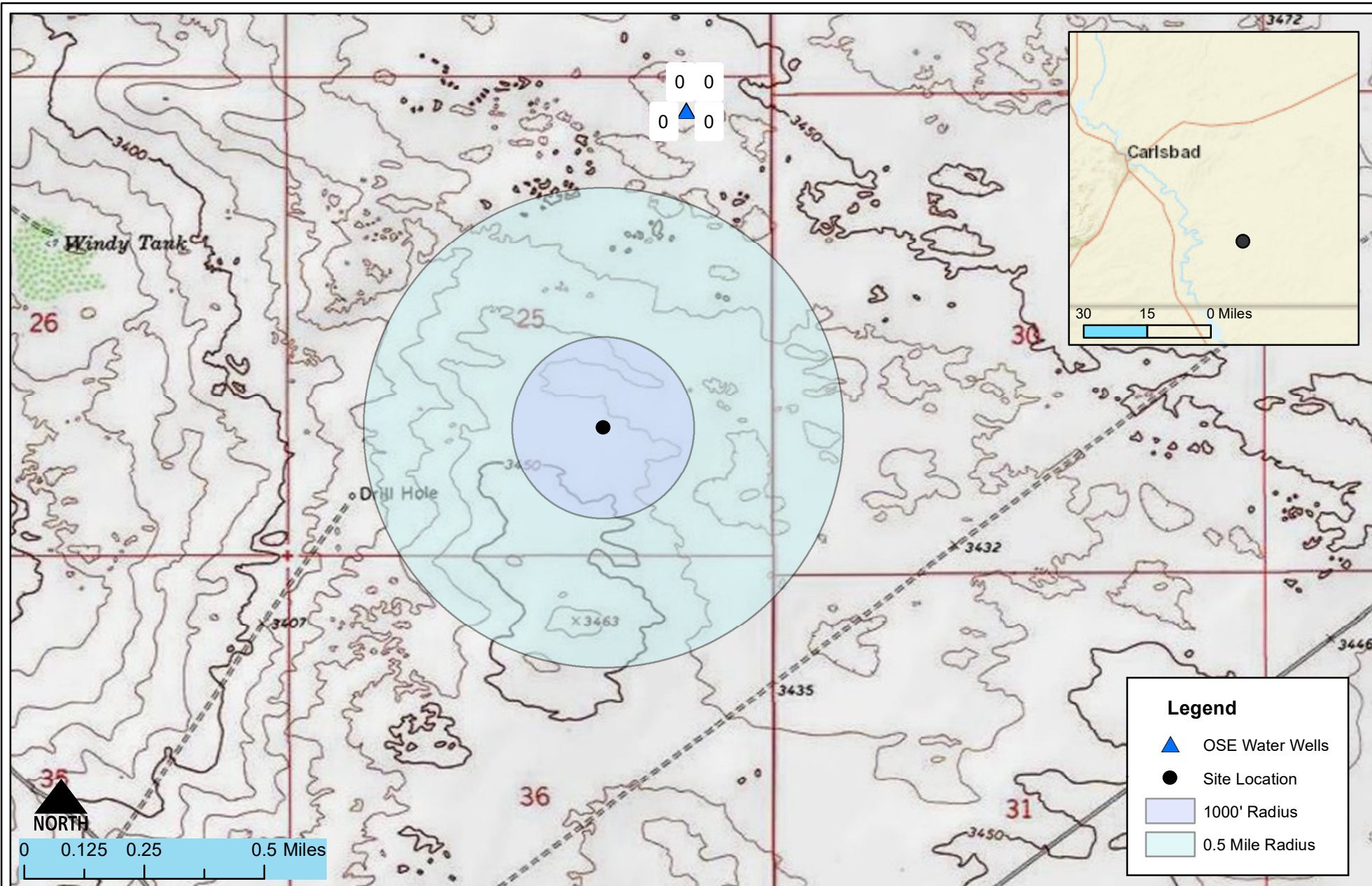
Appendix A: Form C141 Initial and Final

Appendix B: NMOSE Wells Report

Appendix C: Laboratory Analytical Reports

# FIGURE 1 VICINITY AND NMOSE DATA MAP





OSE Wellhead Protection Map  
PLU CVX JV BS 010H Flowline - XTO  
Eddy County, New Mexico

Figure 1

Date Saved:  
6/20/2018

By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr: \_\_\_\_\_  
By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr: \_\_\_\_\_  
Copyright 2015 Souder, Miller & Associates - All Rights Reserved

Drawn Melodie Sanjari  
Checked \_\_\_\_\_  
Approved \_\_\_\_\_



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



Site & Sample Location Map  
 PLU CVX JV BS 010H Flowline - XTO  
 Eddy County, New Mexico

Figure 2

Date Saved:  
7/4/2018

By: \_\_\_\_\_ Date: \_\_\_\_\_  
 By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Copyright 2015 Souder, Miller & Associates - All Rights Reserved

Revisions  
 Descr: \_\_\_\_\_  
 Descr: \_\_\_\_\_  
 Drawn **Melodie Sanjari**  
 Checked \_\_\_\_\_  
 Approved \_\_\_\_\_



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 Carlsbad, New Mexico 88221  
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## TABLE 3

# SUMMARY SAMPLE RESULTS

## PLU-CVX-JV-BS-010H

Table 3.

Sample Number on Figure 2	Sample Date	Depth (feet bgs)	Completed Action	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	Total TPH mg/Kg	Cl- Laboratory mg/Kg
NMOCD RRAL's for Site Ranking 0				50 mg/Kg	10 mg/Kg				5000 mg/Kg	
SW1	3/5/2018	sidewall	excavated	0.5	0.037	8.5	89	<50	97.5	<b>2300</b>
	6/6/2018	sidewall	in-situ	--	--	--	--	--	--	310
SW2	3/5/2018	sidewall	excavated	<b>195</b>	<b>11</b>	2300	7000	2200	<b>11500</b>	<b>15000</b>
	6/6/2018	sidewall	in-situ	<0.224	<0.025	<5.0	<10	<50	<65	100
SW3	3/5/2018	sidewall	in-situ	<0.23	<0.023	<4.7	18	<47	18	320
SW4	3/5/2018	sidewall	excavated	0.34	0.03	5.3	73	<47	78.3	<b>1000</b>
	6/6/2018	sidewall	in-situ	--	--	--	--	--	--	370
SW5	3/5/2018	sidewall	excavated	<b>307</b>	<b>17</b>	3500	12000	3800	<b>19300</b>	<b>12000</b>
	6/6/2018	sidewall	in-situ	<0.22	<0.024	<4.9	<10	<51	<65.9	<30
SW6	3/5/2018	sidewall	excavated	1.33	0.09	40	280	110	<b>430</b>	<b>8200</b>
	6/6/5018	sidewall	in-situ	--	--	<4.6	<10	<50	<64.6	160
BH1	3/5/2018	3.8	excavated	<b>245</b>	<b>13</b>	2100	14000	5300	<b>21400</b>	<b>6000</b>
	6/6/2018	5	excavated	45	<0.48	830	5600	1800	<b>8230</b>	<b>8700</b>
	6/6/2018	6	in-situ	<0.212	<0.024	5.4	640	530	1175.4	570
BH2	6/6/2018	3.5	excavated	<0.216	<0.024	<4.8	<9.9	<50	<64.7	<b>33</b>
	3/5/2018	3.8	excavated	<b>491</b>	<b>46</b>	4900	14000	4600	<b>23500</b>	<b>23000</b>
	6/6/2018	4	in-situ	<0.225	<0.025	<5.0	<9.9	<49	<63.9	<30

## Elevated Chloride Concentration

exceeds RRAL's

to be excavated

"--" = Not Analyzed

# APPENDIX A

## C141 INITIAL AND FINAL

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

MAR 19 2018

Form C-141  
Revised April 3, 2017

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

RECEIVED Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

## Release Notification and Corrective Action

*NAB1807950341* OPERATOR ☒ Initial Report ☐ Final Report

Name of Company: XTO Energy	Contact: Amy Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No: 432-689-3380
Facility Name: Poker Lake Unit CVX JV BS #010H	Facility Type: Exploration and Production
Surface Owner: Federal	Mineral Owner: Federal
API No: 30-015-39846	

## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	25	24S	30E	1445	South	1830	East	Eddy

Latitude 32.185566° Longitude -103.831580° NAD83

## NATURE OF RELEASE

Type of Release	Produced water and crude oil	Volume of Release	67 bbls	Volume Recovered	65 bbls
Source of Release	flow line	Date and Hour of Occurrence	3/4/2018 time unknown	Date and Hour of Discovery	3/4/2018 10 am
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Mike Bratcher/Crystal Weaver (NMOCD), Shelly Tucker/Jim Amos (BLM)		
By Whom?	Amy Ruth	Date and Hour:	3/5/2018 10:50 am	<i>9:51 e-mail *</i>	
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	N/A		

If a Watercourse was Impacted, Describe Fully.\*  
N/A

Describe Cause of Problem and Remedial Action Taken.\*

Buried steel flow line developed a leak due to corrosion. A hole was excavated to expose the leak and recover escaping fluids while efforts were being made to clamp the line. The line was repaired.

Describe Area Affected and Cleanup Action Taken.\*

The release affected 550 square feet of lease road and approximately 175 square feet of pasture. A vacuum truck was dispatched immediately upon discovery and was able to recover fluids directly from excavated hole around leak minimizing surface area impacts. Recovered fluids and impacted soils removed from line repair were sent to disposal. An environmental contractor was retained to assist with the remediation effort and initial sampling has begun.

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>Amy Ruth</i>		OIL CONSERVATION DIVISION	
Printed Name: Amy Ruth		Signed By: <i>Mike Bratcher</i>	
Title: Environmental Coordinator		Approved by Environmental Specialist:	
E-mail Address: Amy_Ruth@xtoenergy.com		Approval Date: <i>3/20/18</i>	Expiration Date: <i>N/A</i>
Date: 3/19/18 Phone: 432-689-3380		Conditions of Approval: <i>see attached</i>	Attached: <i>ARP-4444</i>

\* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 3/19/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2018-411111 has been assigned. **Please refer to this case number in all future correspondence.**

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

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

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in ARTESIA on or before 4/19/2018. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

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

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

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

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

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

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

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

**Jim Griswold**

OCD Environmental Bureau Chief

1220 South St. Francis Drive

Santa Fe, New Mexico 87505

505-476-3465

jim.griswold@state.nm.us



## Bratcher, Mike, EMNRD

---

**From:** Ruth, Amy <Amy\_Ruth@xtoenergy.com>  
**Sent:** Monday, March 19, 2018 2:42 PM  
**To:** Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; Shelly Tucker; Jim Amos  
**Cc:** Littrell, Kyle; Sanders, Toady; Foust, Bryan; McSpadden, Wes  
**Subject:** Initial C-141 - PLU CVX JV BS 010H 3-4-18 (API 30-015-39846)  
**Attachments:** Initial C-141 - PLU CVX JV BS 10H 3-4-18.pdf

Good Afternoon,

Please find attached the initial C-141 detailing the referenced accidental release of fluids. Thank you for your help and contact me anytime with questions.

Respectfully,

Amy C. Ruth  
Delaware Basin Division  
Environmental Coordinator  
3104 E. Greene Street | Carlsbad, NM 88220 | M: 432.661.0571 | O: 575.689.3380

This document may contain information that is privileged, confidential and exempt from disclosure under applicable law. If you are not the intended recipient, you are notified that any unauthorized disclosure, copying, distribution or action on/of the contents of this document is prohibited.

-----Original Message-----

**From:** Ruth, Amy  
**Sent:** Monday, March 05, 2018 9:51 AM  
**To:** Mike Bratcher; Crystal EMNRD Weaver; Shelly Tucker; Jim Amos  
**Cc:** Littrell, Kyle; Sanders, Toady; Foust, Bryan; McSpadden, Wes  
**Subject:** Release Notification - PLU CVX JV BS 010H 3-4-18 (API 30-015-39846)

This is sent as notification of a release of fluids associated with the PLU CVX JV BS 10H flow line in an amount greater than 25 barrels. The release occurred near the PLU BS 25 Federal Battery at a road crossing. Details will be provided with an initial C141. Please call with questions or concerns. Thank you.

Amy Ruth  
432-661-0571

Sent from my iPhone

## Weaver, Crystal, EMNRD

---

**From:** Ruth, Amy <Amy\_Ruth@xtoenergy.com>  
**Sent:** Monday, March 5, 2018 9:51 AM ✖  
**To:** Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; Shelly Tucker; Jim Amos  
**Cc:** Littrell, Kyle; Sanders, Toady; Foust, Bryan; McSpadden, Wes  
**Subject:** Release Notification - PLU CVX JV BS 010H 3-4-18 (API 30-015-39846)

This is sent as notification of a release of fluids associated with the PLU CVX JV BS 10H flow line in an amount greater than 25 barrels. The release occurred near the PLU BS 25 Federal Battery at a road crossing. Details will be provided with an initial C141. Please call with questions or concerns. Thank you.

Amy Ruth  
432-661-0571

Sent from my iPhone

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

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised April 3, 2017

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

### Release Notification and Corrective Action

nAB18079500341

#### OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: XTO Energy	Contact: Amy Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	Telephone No.: 432-689-3380
Facility Name: Poker Lake Unit CVX JV BS #010H	Facility Type: Exploration & Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-39846
------------------------	------------------------	----------------------

#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	25	24S	30E	1445	South	1830	East	Eddy

Latitude 32.185566 Longitude -103.831580 NAD83

#### NATURE OF RELEASE

Type of Release: Produced Water & Crude Oil	Volume of Release: 67 bbls	Volume Recovered: 65 bbls
Source of Release: Flowline	Date and Hour of Occurrence 3/4/2018	Date and Hour of Discovery 3/4/2018 10am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher/Crystal Weaver (NMOCD) Shelly Tucker/Jim Amos (BLM)	
By Whom? Amy Ruth	Date and Hour: 3/5/2018 9:50 am	
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


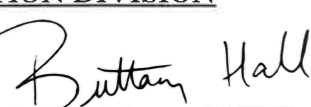
Describe Cause of Problem and Remedial Action Taken.\*

A buried steel flow line developed a leak due to corrosion. A hole was excavated to expose the leak and recover escaping fluids while the line was being clamped. The line was repaired.

Describe Area Affected and Cleanup Action Taken.\*

The release affected 550 square feet of lease road and approximately 175 square feet of pasture. A vacuum truck was dispatched immediately after discovery and was able to recover fluids and minimize surface area impacts. Remediation was completed by delineation and excavation with a hydrovac and all impacted materials were disposed of at an NMOCD approved facility.

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

Signature: 		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Amy Ruth		Approved by Environmental Specialist: 	
Title: Environmental Coordinator		Approval Date:	Expiration Date:
E-mail Address: Amy_Ruth@xtoenergy.com		Conditions of Approval:	
Date: 7/9/2018 Phone: 432-689-3380		Closure approved 11/19/2019	
		Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

2RP-4666

# APPENDIX B

## NMOSE WELLS REPORT



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
<a href="#">C 03558 POD1</a>	CUB	ED		1	2	2	25	24S	30E	610412	3562651	1082	20	0	20
<a href="#">C 03558 POD2</a>	CUB	ED		1	2	2	25	24S	30E	610412	3562651	1082	20	0	20
<a href="#">C 03558 POD3</a>	CUB	ED		1	2	2	25	24S	30E	610412	3562651	1082	25	0	25
<a href="#">C 03558 POD4</a>	CUB	ED		1	2	2	25	24S	30E	610412	3562651	1082	25	0	25
<a href="#">C 03558 POD5</a>	CUB	ED		1	2	2	25	24S	30E	610412	3562651	1082	30	0	30
<a href="#">C 03702 POD1</a>	CUB	ED		4	1	4	24	24S	30E	610092	3563204	1602	20		
<a href="#">C 02110</a>	CUB	ED			4	3	23	24S	30E	608036	3562950*	2501	600	400	200
<a href="#">C 02781</a>	CUB	ED		4	3	2	23	24S	30E	608535	3563657*	2609	624		
<a href="#">C 02782</a>	CUB	ED		4	3	2	23	24S	30E	608535	3563657*	2609	808		
<a href="#">C 03716 POD1</a>	CUB	ED		4	2	2	02	25S	30E	609069	3559211	2621	600	425	175
<a href="#">C 03891 POD1</a>	CUB	ED		4	4	2	01	25S	30E	610608	3558890	2751	635	429	206
<a href="#">C 02780</a>	CUB	ED		2	3	2	23	24S	30E	608535	3563857*	2769	505		

Average Depth to Water: **156 feet**

Minimum Depth: **0 feet**

Maximum Depth: **429 feet**

Record Count: 12

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

**Easting (X):** 610143.99

**Northing (Y):** 3561602.86

**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.

6/19/18 4:14 PM

Page 1 of 1

WATER COLUMN/ AVERAGE  
DEPTH TO WATER

# APPENDIX C

## LABORATORY ANALYTICAL REPORTS





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

March 14, 2018

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

RE: PLU

OrderNo.: 1803361

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 8 sample(s) on 3/7/2018 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 1803361

Date Reported: 3/14/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SW1

Project: PLU

Collection Date: 3/5/2018 3:16:00 PM

Lab ID: 1803361-001

Matrix: SOIL

Received Date: 3/7/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	2300	150		mg/Kg	100	3/13/2018 9:15:38 PM	36950
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	89	10		mg/Kg	1	3/9/2018 6:47:38 PM	36911
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/9/2018 6:47:38 PM	36911
Surr: DNOP	108	70-130		%Rec	1	3/9/2018 6:47:38 PM	36911
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	8.5	4.9		mg/Kg	1	3/8/2018 12:52:51 PM	36891
Surr: BFB	124	15-316		%Rec	1	3/8/2018 12:52:51 PM	36891
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.037	0.024		mg/Kg	1	3/8/2018 12:52:51 PM	36891
Toluene	0.12	0.049		mg/Kg	1	3/8/2018 12:52:51 PM	36891
Ethylbenzene	0.050	0.049		mg/Kg	1	3/8/2018 12:52:51 PM	36891
Xylenes, Total	0.29	0.097		mg/Kg	1	3/8/2018 12:52:51 PM	36891
Surr: 4-Bromofluorobenzene	94.4	80-120		%Rec	1	3/8/2018 12:52:51 PM	36891

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

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

Page 1 of 12

## Analytical Report

Lab Order 1803361

Date Reported: 3/14/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SW2

Project: PLU

Collection Date: 3/5/2018 3:17:00 PM

Lab ID: 1803361-002

Matrix: SOIL

Received Date: 3/7/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	15000	750		mg/Kg	500	3/13/2018 9:28:02 PM	36950
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	7000	200		mg/Kg	20	3/9/2018 5:58:40 PM	36911
Motor Oil Range Organics (MRO)	2200	1000		mg/Kg	20	3/9/2018 5:58:40 PM	36911
Surr: DNOP	0	70-130	S	%Rec	20	3/9/2018 5:58:40 PM	36911
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	2300	480		mg/Kg	100	3/8/2018 9:40:47 AM	36891
Surr: BFB	187	15-316		%Rec	100	3/8/2018 9:40:47 AM	36891
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	11	2.4		mg/Kg	100	3/8/2018 9:40:47 AM	36891
Toluene	70	4.8		mg/Kg	100	3/8/2018 9:40:47 AM	36891
Ethylbenzene	19	4.8		mg/Kg	100	3/8/2018 9:40:47 AM	36891
Xylenes, Total	95	9.7		mg/Kg	100	3/8/2018 9:40:47 AM	36891
Surr: 4-Bromofluorobenzene	117	80-120		%Rec	100	3/8/2018 9:40:47 AM	36891

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

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

Page 2 of 12

## Analytical Report

Lab Order 1803361

Date Reported: 3/14/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SW3

Project: PLU

Collection Date: 3/5/2018 3:21:00 PM

Lab ID: 1803361-003

Matrix: SOIL

Received Date: 3/7/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	320	30		mg/Kg	20	3/11/2018 6:42:55 PM	36950
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	18	9.4		mg/Kg	1	3/9/2018 5:34:10 PM	36911
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/9/2018 5:34:10 PM	36911
Surr: DNOP	110	70-130		%Rec	1	3/9/2018 5:34:10 PM	36911
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/8/2018 1:16:29 PM	36891
Surr: BFB	95.7	15-316		%Rec	1	3/8/2018 1:16:29 PM	36891
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	3/8/2018 1:16:29 PM	36891
Toluene	ND	0.047		mg/Kg	1	3/8/2018 1:16:29 PM	36891
Ethylbenzene	ND	0.047		mg/Kg	1	3/8/2018 1:16:29 PM	36891
Xylenes, Total	ND	0.093		mg/Kg	1	3/8/2018 1:16:29 PM	36891
Surr: 4-Bromofluorobenzene	91.7	80-120		%Rec	1	3/8/2018 1:16:29 PM	36891

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

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

Page 3 of 12

## Analytical Report

Lab Order 1803361

Date Reported: 3/14/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SW4

Project: PLU

Collection Date: 3/5/2018 3:30:00 PM

Lab ID: 1803361-004

Matrix: SOIL

Received Date: 3/7/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	1000	30		mg/Kg	20	3/11/2018 6:55:20 PM	36950
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	73	9.4		mg/Kg	1	3/9/2018 5:09:26 PM	36911
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/9/2018 5:09:26 PM	36911
Surr: DNOP	109	70-130		%Rec	1	3/9/2018 5:09:26 PM	36911
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	5.3	4.9		mg/Kg	1	3/8/2018 1:39:53 PM	36891
Surr: BFB	118	15-316		%Rec	1	3/8/2018 1:39:53 PM	36891
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.030	0.025		mg/Kg	1	3/8/2018 1:39:53 PM	36891
Toluene	0.079	0.049		mg/Kg	1	3/8/2018 1:39:53 PM	36891
Ethylbenzene	ND	0.049		mg/Kg	1	3/8/2018 1:39:53 PM	36891
Xylenes, Total	0.23	0.098		mg/Kg	1	3/8/2018 1:39:53 PM	36891
Surr: 4-Bromofluorobenzene	95.1	80-120		%Rec	1	3/8/2018 1:39:53 PM	36891

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

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

Page 4 of 12

## Analytical Report

Lab Order 1803361

Date Reported: 3/14/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SW5

Project: PLU

Collection Date: 3/5/2018 3:45:00 PM

Lab ID: 1803361-005

Matrix: SOIL

Received Date: 3/7/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	12000	750		mg/Kg	500	3/13/2018 9:40:27 PM	36950
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	12000	200		mg/Kg	20	3/9/2018 4:20:09 PM	36911
Motor Oil Range Organics (MRO)	3800	1000		mg/Kg	20	3/9/2018 4:20:09 PM	36911
Surr: DNOP	0	70-130	S	%Rec	20	3/9/2018 4:20:09 PM	36911
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	3500	250		mg/Kg	50	3/8/2018 10:04:32 AM	36891
Surr: BFB	360	15-316	S	%Rec	50	3/8/2018 10:04:32 AM	36891
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	17	1.2		mg/Kg	50	3/8/2018 10:04:32 AM	36891
Toluene	110	2.5		mg/Kg	50	3/8/2018 10:04:32 AM	36891
Ethylbenzene	30	2.5		mg/Kg	50	3/8/2018 10:04:32 AM	36891
Xylenes, Total	150	4.9		mg/Kg	50	3/8/2018 10:04:32 AM	36891
Surr: 4-Bromofluorobenzene	136	80-120	S	%Rec	50	3/8/2018 10:04:32 AM	36891

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

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

Page 5 of 12



## Analytical Report

Lab Order 1803361

Date Reported: 3/14/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SW6

Project: PLU

Collection Date: 3/5/2018 3:50:00 PM

Lab ID: 1803361-006

Matrix: SOIL

Received Date: 3/7/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	8200	300		mg/Kg	200	3/13/2018 8:38:24 PM	36973
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	280	9.1		mg/Kg	1	3/9/2018 3:55:34 PM	36911
Motor Oil Range Organics (MRO)	110	46		mg/Kg	1	3/9/2018 3:55:34 PM	36911
Surr: DNOP	115	70-130		%Rec	1	3/9/2018 3:55:34 PM	36911
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	40	4.8		mg/Kg	1	3/8/2018 2:03:09 PM	36891
Surr: BFB	225	15-316		%Rec	1	3/8/2018 2:03:09 PM	36891
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.090	0.024		mg/Kg	1	3/8/2018 2:03:09 PM	36891
Toluene	0.28	0.048		mg/Kg	1	3/8/2018 2:03:09 PM	36891
Ethylbenzene	0.14	0.048		mg/Kg	1	3/8/2018 2:03:09 PM	36891
Xylenes, Total	0.82	0.095		mg/Kg	1	3/8/2018 2:03:09 PM	36891
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	3/8/2018 2:03:09 PM	36891

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

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

Page 6 of 12

## Analytical Report

Lab Order 1803361

Date Reported: 3/14/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: BH1

Project: PLU

Collection Date: 3/5/2018 3:57:00 PM

Lab ID: 1803361-007

Matrix: SOIL

Received Date: 3/7/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	6000	300		mg/Kg	200	3/13/2018 8:50:48 PM	36973
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	14000	180		mg/Kg	20	3/9/2018 3:06:10 PM	36911
Motor Oil Range Organics (MRO)	5300	910		mg/Kg	20	3/9/2018 3:06:10 PM	36911
Surr: DNOP	0	70-130	S	%Rec	20	3/9/2018 3:06:10 PM	36911
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	2100	47		mg/Kg	10	3/8/2018 10:28:09 AM	36891
Surr: BFB	499	15-316	S	%Rec	10	3/8/2018 10:28:09 AM	36891
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	13	0.24		mg/Kg	10	3/8/2018 10:28:09 AM	36891
Toluene	88	4.7		mg/Kg	100	3/8/2018 2:26:26 PM	36891
Ethylbenzene	24	0.47		mg/Kg	10	3/8/2018 10:28:09 AM	36891
Xylenes, Total	120	9.4		mg/Kg	100	3/8/2018 2:26:26 PM	36891
Surr: 4-Bromofluorobenzene	202	80-120	S	%Rec	10	3/8/2018 10:28:09 AM	36891

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

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

Page 7 of 12

## Analytical Report

Lab Order 1803361

Date Reported: 3/14/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: BH2

Project: PLU

Collection Date: 3/5/2018 4:00:00 PM

Lab ID: 1803361-008

Matrix: SOIL

Received Date: 3/7/2018 9:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	23000	750		mg/Kg	500	3/13/2018 9:03:13 PM	36973
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	14000	190		mg/Kg	20	3/9/2018 2:16:55 PM	36911
Motor Oil Range Organics (MRO)	4600	950		mg/Kg	20	3/9/2018 2:16:55 PM	36911
Surr: DNOP	0	70-130	S	%Rec	20	3/9/2018 2:16:55 PM	36911
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	4900	480		mg/Kg	100	3/8/2018 2:49:48 PM	36891
Surr: BFB	189	15-316		%Rec	100	3/8/2018 2:49:48 PM	36891
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	46	2.4		mg/Kg	100	3/8/2018 2:49:48 PM	36891
Toluene	200	4.8		mg/Kg	100	3/8/2018 2:49:48 PM	36891
Ethylbenzene	45	0.48		mg/Kg	10	3/8/2018 10:51:49 AM	36891
Xylenes, Total	200	9.6		mg/Kg	100	3/8/2018 2:49:48 PM	36891
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	100	3/8/2018 2:49:48 PM	36891

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

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

Page 8 of 12

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

WO#: 1803361

14-Mar-18

**Client:** Souder, Miller & Associates**Project:** PLU

Sample ID	MB-36950		SampType: mblk		TestCode: EPA Method 300.0: Anions					
Client ID:	PBS		Batch ID: 36950		RunNo: 49705					
Prep Date:	3/11/2018		Analysis Date: 3/11/2018		SeqNo: 1607578		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-36950		SampType: lcs		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 36950		RunNo: 49705					
Prep Date:	3/11/2018		Analysis Date: 3/11/2018		SeqNo: 1607579		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	99.5	90	110			

Sample ID	MB-36973		SampType:	mblk		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS		Batch ID:	36973		RunNo:	49736				
Prep Date:	3/12/2018		Analysis Date:	3/13/2018		SeqNo:	1608868		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	ND	1.5									

Sample ID	LCS-36973		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 36973		RunNo: 49736					
Prep Date:	3/12/2018		Analysis Date: 3/13/2018		SeqNo: 1608869		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.0	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

Page 9 of 12

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803361  
14-Mar-18

Client: Souder, Miller & Associates  
Project: PLU

Sample ID	LCS-36911	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	36911	RunNo:	49665					
Prep Date:	3/8/2018	Analysis Date:	3/9/2018	SeqNo:	1606616	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.8	70	130			
Surr: DNOP	4.0		5.000		80.3	70	130			

Sample ID	MB-36911	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	36911	RunNo:	49665					
Prep Date:	3/8/2018	Analysis Date:	3/9/2018	SeqNo:	1606617	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	8.9		10.00		88.7	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

Page 10 of 12

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**WO#: **1803361****14-Mar-18****Client:** Souder, Miller & Associates**Project:** PLU

Sample ID <b>MB-36891</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>36891</b>			RunNo: <b>49653</b>						
Prep Date: <b>3/7/2018</b>	Analysis Date: <b>3/8/2018</b>			SeqNo: <b>1605661</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		96.5	15	316			

Sample ID <b>LCS-36891</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>36891</b>			RunNo: <b>49653</b>						
Prep Date: <b>3/7/2018</b>	Analysis Date: <b>3/8/2018</b>			SeqNo: <b>1605662</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	111	75.9	131			
Surr: BFB	1100		1000		113	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

Page 11 of 12



**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**WO#: **1803361****14-Mar-18****Client:** Souder, Miller & Associates**Project:** PLU

Sample ID <b>MB-36891</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>36891</b>		RunNo: <b>49653</b>							
Prep Date: <b>3/7/2018</b>	Analysis Date: <b>3/8/2018</b>		SeqNo: <b>1605685</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		94.6	80	120			

Sample ID <b>LCS-36891</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>36891</b>		RunNo: <b>49653</b>							
Prep Date: <b>3/7/2018</b>	Analysis Date: <b>3/8/2018</b>		SeqNo: <b>1605686</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	104	77.3	128			
Toluene	1.0	0.050	1.000	0	103	79.2	125			
Ethylbenzene	1.0	0.050	1.000	0	101	80.7	127			
Xylenes, Total	3.1	0.10	3.000	0	104	81.6	129			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.3	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

Page 12 of 12



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: 1803361

RcptNo: 1

Received By: Mandy Woods

3/7/2018 9:50:00 AM

Completed By: Erin Melendrez

3/7/2018 10:42:21 AM

Reviewed By: SRE 03/07/18

Labeled By TDS

Chain of Custody

1. Is Chain of Custody complete?

Yes ☒No ☐Not Present ☐

2. How was the sample delivered?

Courier

Log In

3. Was an attempt made to cool the samples?

Yes ☒No ☐NA ☐4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ?Yes ☒No ☐NA ☐

5. Sample(s) in proper container(s)?

Yes ☒No ☐

6. Sufficient sample volume for indicated test(s)?

Yes ☒No ☐

7. Are samples (except VOA and ONG) properly preserved?

Yes ☒No ☐

8. Was preservative added to bottles?

Yes ☐No ☒NA ☐

9. VOA vials have zero headspace?

Yes ☐No ☐No VOA Vials ☒

10. Were any sample containers received broken?

Yes ☐No ☒

11. Does paperwork match bottle labels?

Yes ☒No ☐

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody?

Yes ☒No ☐

13. Is it clear what analyses were requested?

Yes ☒No ☐

14. Were all holding times able to be met?

Yes ☒No ☐

(If no, notify customer for authorization.)

# of preserved  
bottles checked  
for pH:

(&lt;2 or &gt;12 unless noted)

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

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

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?

Yes ☐No ☐NA ☒

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

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

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

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

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.4	Good	Yes			

## Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

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:

PLU

Project #:

Project Manager:

Austin Weyant

Sampler:

On Ice: ☒ Yes ☐ NoSample Temperature: 2.4° - 1.0° (w) = 1.4°

Container Type and #

Preservative Type

HEAL No.

1803361A07-001SW2-002SW3-003SW4-004SW5-005SW6-006BH1-007BH2-008Date: 3/6/18 Time: 1500Relinquished by: M. DavisReceived by: [Signature]Date: 3/6/18 Time: 1500Received by: [Signature]Date: 3/6/18 Time: 1900Relinquished by: [Signature]Received by: [Signature]Date: 3/7/18 Time: 0950Received by: [Signature]Remarks: XTD

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
3/5/18	3:16	Soil	SW1	A07		1803361	X	X	X	X	X	X	X	X	X	X	X	X
3/5/18	3:17		SW2				X	X	X	X	X	X	X	X	X	X	X	X
3/5/18	3:21		SW3				X	X	X	X	X	X	X	X	X	X	X	X
3/5/18	3:30		SW4				X	X	X	X	X	X	X	X	X	X	X	X
3/5/18	3:45		SW5				X	X	X	X	X	X	X	X	X	X	X	X
3/5/18	3:50		SW6				X	X	X	X	X	X	X	X	X	X	X	X
3/5/18	3:57		BH1				X	X	X	X	X	X	X	X	X	X	X	X
3/5/18	4:00		BH2				X	X	X	X	X	X	X	X	X	X	X	X


**HALL ENVIRONMENTAL  
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request



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

June 21, 2018

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

RE: 10 H

OrderNo.: 1806503

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 9 sample(s) on 6/7/2018 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order **1806503**Date Reported: **6/21/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW1**Project:** 10 H**Collection Date:** 6/6/2018 9:27:00 AM**Lab ID:** 1806503-001**Matrix:** SOIL**Received Date:** 6/7/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	310	30		mg/Kg	20	6/14/2018 5:04:13 PM	38695

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

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

Page 1 of 13



## Analytical Report

Lab Order 1806503

Date Reported: 6/21/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SW2

Project: 10 H

Collection Date: 6/6/2018 9:55:00 AM

Lab ID: 1806503-002

Matrix: SOIL

Received Date: 6/7/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JRR
Chloride	100	30		mg/Kg	20	6/14/2018 5:41:25 PM	38695
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/12/2018 7:16:30 PM	38610
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/12/2018 7:16:30 PM	38610
Surr: DNOP	99.8	70-130		%Rec	1	6/12/2018 7:16:30 PM	38610
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/12/2018 3:04:41 PM	38591
Surr: BFB	83.0	15-316		%Rec	1	6/12/2018 3:04:41 PM	38591
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	6/12/2018 3:04:41 PM	38591
Benzene	ND	0.025		mg/Kg	1	6/12/2018 3:04:41 PM	38591
Toluene	ND	0.050		mg/Kg	1	6/12/2018 3:04:41 PM	38591
Ethylbenzene	ND	0.050		mg/Kg	1	6/12/2018 3:04:41 PM	38591
Xylenes, Total	ND	0.099		mg/Kg	1	6/12/2018 3:04:41 PM	38591
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	6/12/2018 3:04:41 PM	38591

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

Page 2 of 13

## Analytical Report

Lab Order **1806503**Date Reported: **6/21/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW4**Project:** 10 H**Collection Date:** 6/6/2018 1:42:00 PM**Lab ID:** 1806503-003**Matrix:** SOIL**Received Date:** 6/7/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	370	30		mg/Kg	20	6/14/2018 5:53:50 PM	38695

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

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

Page 3 of 13



## Analytical Report

Lab Order 1806503

Date Reported: 6/21/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SW5

Project: 10 H

Collection Date: 6/6/2018 10:30:00 AM

Lab ID: 1806503-004

Matrix: SOIL

Received Date: 6/7/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JRR
Chloride	ND	30		mg/Kg	20	6/14/2018 6:06:14 PM	38695
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/12/2018 7:41:09 PM	38610
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	6/12/2018 7:41:09 PM	38610
Surr: DNOP	100	70-130		%Rec	1	6/12/2018 7:41:09 PM	38610
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/12/2018 3:28:28 PM	38591
Surr: BFB	82.2	15-316		%Rec	1	6/12/2018 3:28:28 PM	38591
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.098		mg/Kg	1	6/12/2018 3:28:28 PM	38591
Benzene	ND	0.024		mg/Kg	1	6/12/2018 3:28:28 PM	38591
Toluene	ND	0.049		mg/Kg	1	6/12/2018 3:28:28 PM	38591
Ethylbenzene	ND	0.049		mg/Kg	1	6/12/2018 3:28:28 PM	38591
Xylenes, Total	ND	0.098		mg/Kg	1	6/12/2018 3:28:28 PM	38591
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	6/12/2018 3:28:28 PM	38591

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

Page 4 of 13

## Analytical Report

Lab Order 1806503

Date Reported: 6/21/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SW6

Project: 10 H

Collection Date: 6/6/2018 10:12:00 AM

Lab ID: 1806503-005

Matrix: SOIL

Received Date: 6/7/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	160	30		mg/Kg	20	6/14/2018 6:18:39 PM	38695
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/12/2018 8:05:40 PM	38610
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/12/2018 8:05:40 PM	38610
Surr: DNOP	99.2	70-130		%Rec	1	6/12/2018 8:05:40 PM	38610
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	6/12/2018 6:15:08 PM	38591
Surr: BFB	84.1	15-316		%Rec	1	6/12/2018 6:15:08 PM	38591

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

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

Page 5 of 13

## Analytical Report

Lab Order 1806503

Date Reported: 6/21/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: BH2-3.5'

Project: 10 H

Collection Date: 6/6/2018 10:49:00 AM

Lab ID: 1806503-006

Matrix: SOIL

Received Date: 6/7/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JRR
Chloride	33	30		mg/Kg	20	6/14/2018 6:31:03 PM	38695
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/12/2018 8:29:58 PM	38610
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/12/2018 8:29:58 PM	38610
Surr: DNOP	97.5	70-130		%Rec	1	6/12/2018 8:29:58 PM	38610
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/12/2018 6:38:58 PM	38591
Surr: BFB	83.1	15-316		%Rec	1	6/12/2018 6:38:58 PM	38591
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	6/12/2018 6:38:58 PM	38591
Toluene	ND	0.048		mg/Kg	1	6/12/2018 6:38:58 PM	38591
Ethylbenzene	ND	0.048		mg/Kg	1	6/12/2018 6:38:58 PM	38591
Xylenes, Total	ND	0.096		mg/Kg	1	6/12/2018 6:38:58 PM	38591
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	6/12/2018 6:38:58 PM	38591

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

Page 6 of 13

## Analytical Report

Lab Order 1806503

Date Reported: 6/21/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: BH2-4'

Project: 10 H

Collection Date: 6/6/2018 12:07:00 PM

Lab ID: 1806503-007

Matrix: SOIL

Received Date: 6/7/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JRR
Chloride	ND	30		mg/Kg	20	6/14/2018 7:08:17 PM	38695
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/12/2018 8:54:36 PM	38610
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/12/2018 8:54:36 PM	38610
Surr: DNOP	109	70-130		%Rec	1	6/12/2018 8:54:36 PM	38610
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/12/2018 7:02:49 PM	38591
Surr: BFB	83.2	15-316		%Rec	1	6/12/2018 7:02:49 PM	38591
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	6/12/2018 7:02:49 PM	38591
Toluene	ND	0.050		mg/Kg	1	6/12/2018 7:02:49 PM	38591
Ethylbenzene	ND	0.050		mg/Kg	1	6/12/2018 7:02:49 PM	38591
Xylenes, Total	ND	0.10		mg/Kg	1	6/12/2018 7:02:49 PM	38591
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	6/12/2018 7:02:49 PM	38591

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

Page 7 of 13

## Analytical Report

Lab Order 1806503

Date Reported: 6/21/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: BH1-5'

Project: 10 H

Collection Date: 6/6/2018 2:30:00 PM

Lab ID: 1806503-008

Matrix: SOIL

Received Date: 6/7/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	8700	750		mg/Kg	500	6/15/2018 11:14:39 AM	38695
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	5600	100		mg/Kg	10	6/14/2018 11:30:57 AM	38610
Motor Oil Range Organics (MRO)	1800	500		mg/Kg	10	6/14/2018 11:30:57 AM	38610
Surr: DNOP	0	70-130	S	%Rec	10	6/14/2018 11:30:57 AM	38610
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	830	95		mg/Kg	20	6/12/2018 7:26:42 PM	38591
Surr: BFB	284	15-316		%Rec	20	6/12/2018 7:26:42 PM	38591
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.48		mg/Kg	20	6/12/2018 7:26:42 PM	38591
Toluene	7.5	0.95		mg/Kg	20	6/12/2018 7:26:42 PM	38591
Ethylbenzene	5.5	0.95		mg/Kg	20	6/12/2018 7:26:42 PM	38591
Xylenes, Total	32	1.9		mg/Kg	20	6/12/2018 7:26:42 PM	38591
Surr: 4-Bromofluorobenzene	130	80-120	S	%Rec	20	6/12/2018 7:26:42 PM	38591

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

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

Page 8 of 13

## Analytical Report

Lab Order 1806503

Date Reported: 6/21/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: BH1-6'

Project: 10 H

Collection Date: 6/6/2018 2:45:00 PM

Lab ID: 1806503-009

Matrix: SOIL

Received Date: 6/7/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	570	30		mg/Kg	20	6/14/2018 7:33:06 PM	38695
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	640	9.8		mg/Kg	1	6/12/2018 9:43:39 PM	38610
Motor Oil Range Organics (MRO)	530	49		mg/Kg	1	6/12/2018 9:43:39 PM	38610
Surr: DNOP	136	70-130	S	%Rec	1	6/12/2018 9:43:39 PM	38610
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	5.4	4.7		mg/Kg	1	6/12/2018 7:50:29 PM	38591
Surr: BFB	131	15-316		%Rec	1	6/12/2018 7:50:29 PM	38591
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	6/12/2018 7:50:29 PM	38591
Toluene	ND	0.047		mg/Kg	1	6/12/2018 7:50:29 PM	38591
Ethylbenzene	ND	0.047		mg/Kg	1	6/12/2018 7:50:29 PM	38591
Xylenes, Total	ND	0.094		mg/Kg	1	6/12/2018 7:50:29 PM	38591
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	1	6/12/2018 7:50:29 PM	38591

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

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

Page 9 of 13

QC SUMMARY REPORT  
Hall Environmental Analysis Laboratory, Inc.

WO#: 1806503  
21-Jun-18

Client: Souder, Miller & Associates  
Project: 10 H

Sample ID	MB-38695	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	38695	RunNo:	51990					
Prep Date:	6/14/2018	Analysis Date:	6/14/2018	SeqNo:	1700215	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-38695	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	38695	RunNo:	51990					
Prep Date:	6/14/2018	Analysis Date:	6/14/2018	SeqNo:	1700216	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.2	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#: 1806503  
21-Jun-18

Client: Souder, Miller & Associates  
Project: 10 H

Sample ID	LCS-38610	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	38610	RunNo:	51898					
Prep Date:	6/11/2018	Analysis Date:	6/12/2018	SeqNo:	1696744	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.4	70	130			
Surr: DNOP	4.4		5.000		87.6	70	130			

Sample ID	MB-38610	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	38610	RunNo:	51898					
Prep Date:	6/11/2018	Analysis Date:	6/12/2018	SeqNo:	1696745	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	9.9		10.00		99.4	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
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

Page 11 of 13

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

WO#: 1806503

21-Jun-18

**Client:** Souder, Miller & Associates**Project:** 10 H

Sample ID <b>MB-38591</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>38591</b>			RunNo: <b>51914</b>						
Prep Date: <b>6/11/2018</b>	Analysis Date: <b>6/12/2018</b>			SeqNo: <b>1696559</b>	Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	890		1000		88.9	15	316			

Sample ID <b>LCS-38591</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>38591</b>			RunNo: <b>51914</b>						
Prep Date: <b>6/11/2018</b>	Analysis Date: <b>6/12/2018</b>			SeqNo: <b>1696560</b>	Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	111	75.9	131			
Surr: BFB	970		1000		97.2	15	316			

Sample ID <b>MB-38635</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>38635</b>			RunNo: <b>51956</b>						
Prep Date: <b>6/12/2018</b>	Analysis Date: <b>6/13/2018</b>			SeqNo: <b>1698126</b>	Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	890		1000		88.8	15	316			

Sample ID <b>LCS-38635</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>38635</b>			RunNo: <b>51956</b>						
Prep Date: <b>6/12/2018</b>	Analysis Date: <b>6/13/2018</b>			SeqNo: <b>1698127</b>	Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	980		1000		97.6	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

Page 12 of 13

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

WO#: 1806503

21-Jun-18

**Client:** Souder, Miller & Associates**Project:** 10 H

Sample ID	MB-38591		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 38591		RunNo: 51914					
Prep Date:	6/11/2018		Analysis Date: 6/12/2018		SeqNo: 1696595		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		103	80	120			

Sample ID	LCS-38591		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 38591		RunNo: 51914					
Prep Date:	6/11/2018		Analysis Date: 6/12/2018		SeqNo: 1696596		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.93	0.10	1.000	0	93.4	70.1	121			
Benzene	0.93	0.025	1.000	0	92.7	77.3	128			
Toluene	0.96	0.050	1.000	0	95.9	79.2	125			
Ethylbenzene	0.95	0.050	1.000	0	94.9	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	96.9	81.6	129			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID	MB-38635		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 38635		RunNo: 51956					
Prep Date:	6/12/2018		Analysis Date: 6/13/2018		SeqNo: 1698170		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID	LCS-38635		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 38635		RunNo: 51956					
Prep Date:	6/12/2018		Analysis Date: 6/13/2018		SeqNo: 1698171		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

**Qualifiers:**

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



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

## Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1806503

RcptNo: 1

Received By: Jazzmine Burkhead 6/7/2018 10:00:00 AM

Completed By: Ashley Gallegos 6/8/2018 12:07:24 PM

Reviewed By: ENM

6/8/18

labeled by: JB 06/08/18

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
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?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH:

(<2 or >12 unless noted)

Adjusted? JB 06/08/18

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

Special Handling (if applicable)

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

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

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

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

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

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Yes			

## Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other☐ EDD (Type)

Turn-Around Time:

☐ Standard ☒ Rush

Project Name:

Project #:

Project Manager:

Sampler:

On Ice: ☒ Yes ☐ NoSample Temperature: 2.3-0.3(°C) = 2.0

Container Type and #

Preservative Type

HEAL No.

18DU503-001-002-003-004-005-006-007-008-009-010-011-012-013-014-015-016-017-018-019-020-021-022-023-024-025-026-027-028-029-030-031-032-033-034-035-036-037-038-039-040-041-042-043-044-045-046-047-048-049-050-051-052-053-054-055-056-057-058-059-060-061-062-063-064-065-066-067-068-069-070-071-072-073-074-075-076-077-078-079-080-081-082-083-084-085-086-087-088-089-090-091-092-093-094-095-096-097-098-099-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS  
  
Action 194823

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 194823
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	3/8/2023