

November 28, 2018

#5E27499-BG13

(575) 689-8801

Souder, Miller & Associates 201 S. Halagueno St. Carlsbad, NM 88220

NMOCD District 1 Ms. Christina Hernandez 1625 N. French Drive Hobbs, New Mexico 88240

SUBJECT: Remediation Closure Report for the Abe Unit #2 Release (1RP-5187), Lea County, New Mexico

Dear Ms. Hernandez:

On behalf of Marathon Oil Permian LLC (Marathon), Souder, Miller & Associates (SMA) has prepared this Remediation Closure Report that describes the remediation of a release of liquids related to oil and gas production activities at the Abe Unit #2 site. The site is in Unit H, Section 29, Township 21S, Range 33E, Lea County, New Mexico, on state land. Figure 1 illustrates the vicinity and site location on an USGS 7.5 minute quadrangle map.

Table 1 summarizes release information and closure criteria.

	Table 1: Release Information and Closure Criteria							
Name	Abe Unit #2	Company	Marathon Oil Permian LLC					
API Number	30-025-34146	Location	32.448363° -103.575446°					
Incident Number		1RP-5187						
Estimated Date of Release	September 2, 2018	Date Reported to NMOCD	September 2, 2018					
Land Owner	State	Reported To	NMOCD District 1					
Source of Release	Water Transfer Line	-						
Released Volume	200 bbls	Released Material	Produced Water					
Recovered Volume	1 bbl	Net Release	199 bbls					
NMOCD Closure Criteria	>100 feet to groundwater							
SMA Response Dates	September 5 and 12, 2018							

Abe Unit #2 Closure Report (1RP-5187) November 28, 2018

1.0 Background

On September 2, 2018, a release was discovered due to a rupture in a water transfer line associated with the Abe Unit #2. Initial response activities were conducted by Marathon, and included stopping the source of the release, securing the area to protect human health and the environment, and the utilization of a vac truck to recover standing liquids. Approximately one (1) foot of soil was scraped in the immediate area of the release. Figure 1 illustrates the vicinity and site location. The C-141 form is included in Appendix A.

2.0 Site Information and Closure Criteria

The Abe Unit #2 release site is located approximately thirty-one (31) miles southwest of Hobbs, New Mexico on privately-owned land. As summarized in Table 2 and illustrated in Figure 1, depth to groundwater in the area is estimated to be 179 feet below grade surface (bgs). There are two (2) known water sources within ½-mile of the location, according to the New Mexico Office of the State Engineer (NMOSE) online water well database (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed 9/13/2018). One of the USGS wells was not located at the mapped location, and the NMOSE well did not have depth of water data. Therefore, the USGS well located approximately 0.3 miles northwest of the location was used to determine depth to groundwater. The nearest surface water is an unnamed drainage feature located approximately 0.5 miles to the south.

Based on the information presented herein, the applicable NMOCD Closure Criteria for this site is for a groundwater depth of greater than 100 feet bgs. The site has been restored to meet the standards of Table I of 19.15.29.12 NMAC. Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B.

3.0 Release Characterization Activities and Findings

On September 5, 2018, SMA personnel arrived on site in response to the release associated with Abe Unit #2. SMA performed site delineation activities by collecting soil samples around the release site and throughout the visibly stained area. Soil samples were field-screened for chloride using an electrical conductivity (EC) meter.

A total of twelve (12) sample locations (L1-L12) were investigated using excavated test pits, to depths up to 3.5 feet bgs. Discreet samples were collected at each sampling location and field-screened using the method above. A total of twenty-two (22) samples were collected for field screening, and sixteen (16) of those samples were submitted for laboratory analysis for total chloride using EPA Method 300.0; a subset of the samples were also analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D. Table 3 itemizes the samples and field-screening results. Locations for all samples are depicted on Figure 2.

Laboratory samples were collected in accordance with the sampling protocol included in Appendix C. Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico (Appendix D).

Results indicated that an area approximately 460 feet long by up to 100 feet wide and anywhere from 1 to 3.5 feet deep had been impacted.

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4.0 Soil Remediation Summary

SMA returned to the site to guide the excavation of contaminated soil. After approval from area utilities via 811, SMA guided the excavation activities by collecting soil samples for field screening. Samples were screened for chloride using an electrical conductivity (EC). The walls and base were excavated until field screening results indicated that the NMOCD closure criteria would be met. NMOCD was notified on September 10, 2018 that closure samples were expected to be collected in two (2) business days.

On September 12, 2018, SMA conducted confirmation sampling. Excavation depths are outlined in Figure 2 and in Table 3. The confirmation samples were collected from within the excavation in accordance with the sampling protocol included in Appendix C and included nine (9) composite samples from the bottom of the excavation, representing each area of differing depths (CS1-CS9) and twenty-two composite side wall samples (SW1-SW22).

Figure 2 shows the extent of the excavation and sample locations. All field screening and laboratory results are summarized in Table 3. Laboratory reports are included in Appendix D.

Contaminated soils were removed and replaced with clean backfill material to return the surface to previous contours. The contaminated soil was transported and disposed of at R360 near Hobbs, NM, an NMOCD permitted disposal facility.

5.0 Scope and Limitations

The scope of our services included: assessment sampling; verifying release stabilization; regulatory liaison; remediation; and preparing this closure report. 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

Heather Patterson Staff Scientist

Reviewed by:

nauna Chubbuck

Shawna Chubbuck Senior Scientist

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Abe Unit #2 Closure Report (1RP-5187) November 28, 2018

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Well Head Protection Map Figure 2: Site and Sample Location Map

Tables:

Table 2: NMOCD Closure Criteria JustificationTable 3: Summary of Sample Results

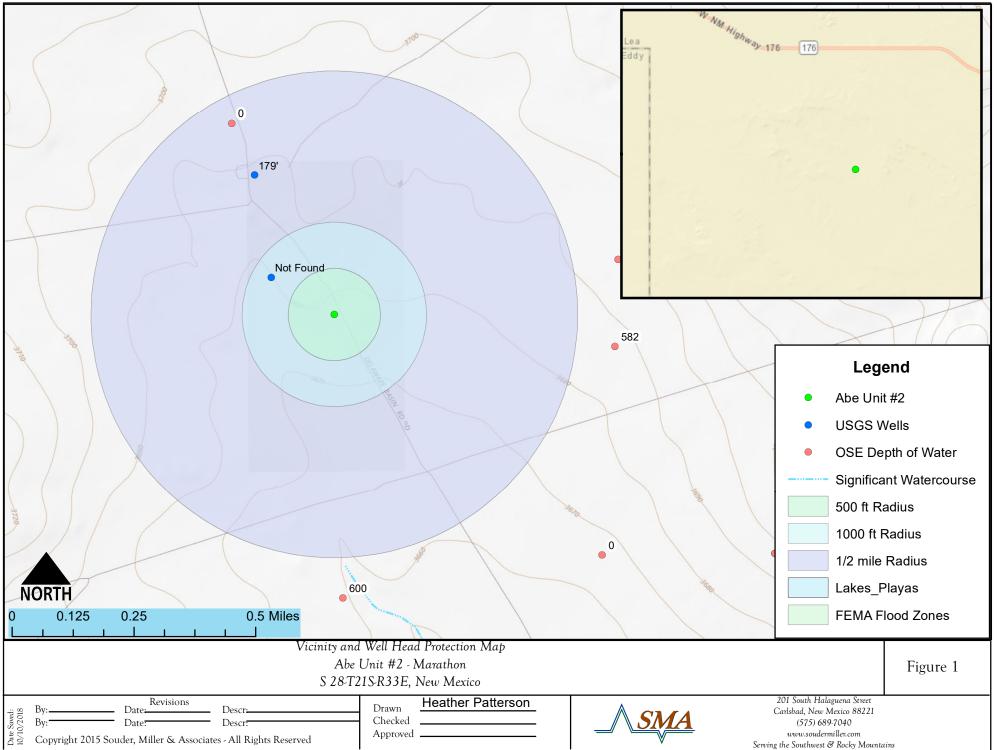
Appendices:

Appendix A: Form C141 Initial and Final Appendix B: NMOSE Wells Report Appendix C: Sampling Protocol, Field Notes and Photo Documentation Appendix D: Laboratory Analytical Reports

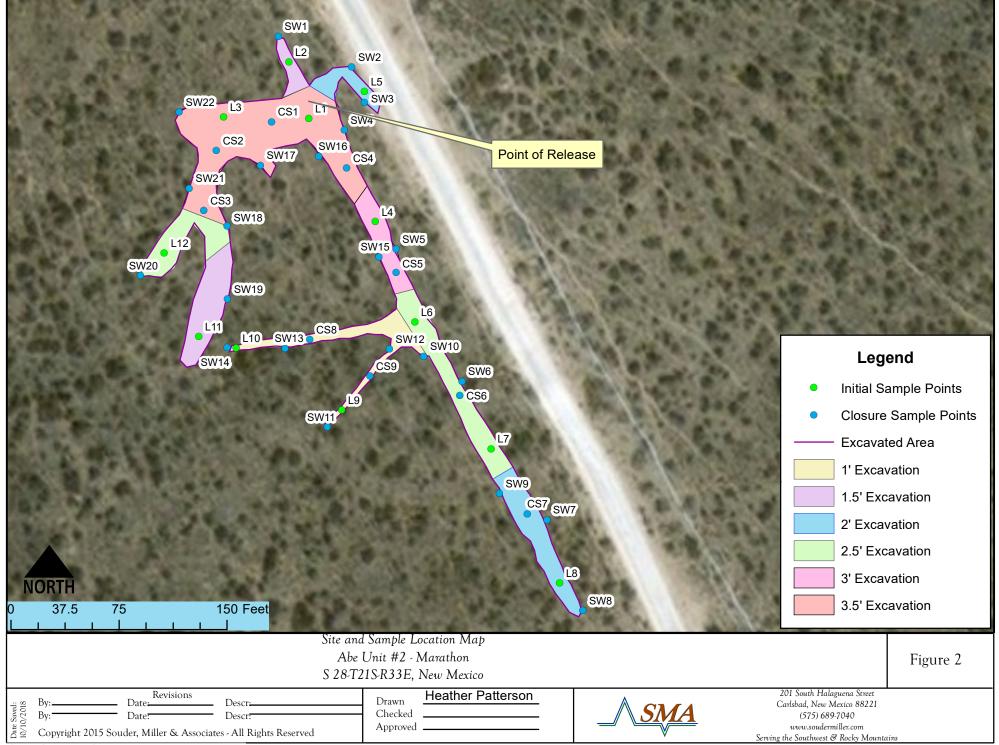
FIGURES

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TABLES

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Site Information (19.15.29.11.A(2, 3, and 4) NMAC	Source/Notes		
Depth to Groundwater (feet bgs)	179	NMOSE/USGS	
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	2	NMOSE/USGS	
Hortizontal Distance to Nearest Significant Watercourse (ft)	4.9 miles	USGS 7.5 minute quadrangle map	

Closure Criteria (19.15.2						
	Closure Criteria (units in mg/kg)					
Depth to Groundwater		Chloride *numerical limit or background, whichever is greater	ТРН	GRO + DRO	BTEX	Benzene
< 50' BGS		600	100		50	10
51' to 100'		10000	2500	1000	50	10
>100'	х	20000	2500	1000	50	10
Surface Water		if ye	s, then			
<300' from continuously flowing watercourse or other significant watercourse? <200' from lakebed, sinkhole or playa lake?	No No	-				
Water Well or Water Source						
<500 feet from spring or a private, domestic fresh water well used by						
less than 5 households for domestic or stock watering purposes?	No					
<1000' from fresh water well or spring?	No					
Human and Other Areas		600	100		50	10
<300' from an occupied permanent residence, school, hospital,		600	100		50	10
institution or church?	No					
within incorporated municipal boundaries or within a defined						
municipal fresh water well field?						
<100' from wetland?						
within area overlying a subsurface mine]					
within an unstable area?	No]				
within a 100-year floodplain?	No					

Abe Unit #2

Table 3. Initial Sampling

Sample		Donth		BTEX	Benzene	GRO	DRO	MRO	Total TPH	Cl-	CI-
Number on Figure 2	Sample Date	Depth (feet bgs)	Action	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	Field Screens (ppm)	Laboratory mg/Kg
	NMOCD Closure	Criteria (mg/K	g)	50	10	10	00		2500		20000
	9/5/2018	1.5	excavated	<0.216	<0.024	<4.8	<10	<50	<64.8	14022	<30
L1	9/5/2018	2.5	excavated							981	
	9/5/2018	3.5	in-situ							<300	<30
L2	9/5/2018	1.5	in-situ	<0.224	<0.025	<5.0	<10	<50	<65	<300	32
L3	9/5/2018	1	in-situ	<0.23	<0.024	<4.9	<9.9	<50	<65	<300	50
L4	9/5/2018	1	excavated							11371	
L4	9/5/2018	2.5	in-situ							<300	60
	9/5/2018	1	excavated							1080	
L5	9/5/2018	1.5	in-situ	<0.22	<0.025	<4.9	<9.9	<50	<64.8	357	380
	9/5/2018	2.5	in-situ							<300	<30
	9/5/2018	1	excavated	<0.217	<0.024	<4.8	<9.6	<48	<62.4	11556	
L6	9/5/2018	1.5	excavated							1350	
	9/5/2018	2.5	in-situ							<300	70
L7	9/5/2018	1.5	excavated							5347	
L/	9/5/2018	2.5	in-situ							<300	38
L8	9/5/2018	1.5	in-situ	<0.217	<0.024	<4.8	<9.8	<49	<63.6	<300	<30
L9	9/5/2018	1	in-situ	<0.210	<0.023	<4.7	<10	<50	<60.7	<300	<30
L10	9/5/2018	1.5	excavated							8763	
	9/5/2018	2.5	in-situ							<300	<30
L11	9/5/2018	1.5	in-situ	<0.225	<0.025	<5.0	<9.9	<50	<64.9	<300	79
112	9/5/2018	2	excavated	<0.224	<0.025	<5.0	<9.9	<49	<63.9	825	700
L12	9/5/2018	3	in-situ							<300	39

Table 3. Confirmation Sampling

Sample				BTEX	Benzene	GRO	DRO	MRO	Total TPH	CI-	CI-
Number on Figure 2	Sample Date	Depth (feet bgs)	Action	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	Field Screens (ppm)	Laboratory mg/Kg
	NMOCD Closure	Criteria (mg/Kg	g)	50	10	10	00		2500		20000
CS1	9/12/2018	3.5	in-situ	<0.23	<0.024	<4.7	<9.9	<49	<64	<300	<30
CS2	9/12/2018	3.5	in-situ	<0.23	<0.025	<4.9	<9.9	<49	<64	<300	<30
CS3	9/12/2018	3.5	in-situ	<0.23	<0.025	<4.9	<9.9	<49	<64	<300	120
CS4	9/14/2018	3.5	in-situ	<0.23	<0.024	<4.8	<10	<50	<65	<300	43
CS5	9/12/2018	3	in-situ	<0.23	<0.024	<4.8	<9.8	<49	<64	<300	240
CS6	9/12/2018	2.5	in-situ	<0.23	<0.023	<4.6	<9.9	<49	<64	<300	100
CS7	9/12/2018	2	in-situ	<0.23	<0.024	<4.8	<9.9	<49	<64	<300	260
CS8	9/12/2018	1	in-situ	<0.23	<0.024	<4.9	<9.9	<49	<64	<300	<30
CS9	9/12/2018	1	in-situ	<0.23	<0.025	<4.9	<10	<50	<65	357	<30
SW1	9/12/2018	Sidewall	in-situ	<0.23	<0.025	<4.9	<10	<50	<65	<300	130
SW2	9/12/2018	Sidewall	in-situ	<0.23	<0.024	<4.8	<9.6	<48	<63	<300	<30
SW3	9/12/2018	Sidewall	in-situ	<0.23	<0.024	<4.7	<9.8	<49	<64	<300	480
SW4	9/12/2018	Sidewall	in-situ	<0.23	<0.023	<4.7	<9.9	<50	<65	<300	<30
SW5	9/12/2018	Sidewall	in-situ	<0.23	<0.024	<4.8	<10	<50	<65	<300	<30
SW6	9/12/2018	Sidewall	in-situ	<0.23	<0.025	<5.0	<9.9	<49	<64	<300	100
SW7	9/12/2018	Sidewall	in-situ	<0.23	<0.024	<4.8	<9.8	<49	<64	<300	180
SW8	9/12/2018	Sidewall	in-situ	<0.23	<0.024	<4.7	<10	<50	<65	<300	<30
SW9	9/12/2018	Sidewall	in-situ	<0.23	<0.025	<5.0	<9.9	<50	<65	<300	<30
SW10	9/12/2018	Sidewall	in-situ	<0.23	<0.025	<4.9	<9.9	<49	<64	<300	35
SW11	9/12/2018	Sidewall	in-situ	<0.23	<0.024	<4.8	<10	<50	<65	<300	<30
SW12	9/12/2018	Sidewall	in-situ	<0.23	<0.024	<4.7	<9.9	<50	<65	<300	73
SW13	9/12/2018	Sidewall	in-situ	<0.23	<0.024	<4.8	<9.7	<48	<63	<300	110
SW14	9/12/2018	Sidewall	in-situ	<0.23	<0.023	<4.7	<9.9	<50	<65	<300	<30
SW15	9/12/2018	Sidewall	in-situ	<0.23	<0.024	<4.8	<9.9	<50	<65	<300	<30
SW16	9/12/2018	Sidewall	in-situ	<0.23	<0.023	<4.7	<9.9	<50	<65	<300	<30
SW17	9/12/2018	Sidewall	in-situ	<0.23	<0.025	<4.9	<10	<50	<65	<300	33
SW18	9/12/2018	Sidewall	in-situ	<0.23	<0.023	<4.6	<10	<50	<65	<300	<30

Sample Number on	Sample Date	Depth	Action	BTEX	Benzene	GRO	DRO	MRO	Total TPH	Cl- Field	CI- Laboratory
Figure 2	(feet bgs)		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	Screens (ppm)	mg/Kg	
	NMOCD Closure Criteria (mg/Kg)		50	10	1000		2500			20000	
SW19	9/12/2018	Sidewall	in-situ	<0.23	<0.023	<4.6	<9.8	<49	<64	<300	<30
SW20	9/12/2018	Sidewall	in-situ	<0.23	<0.024	<4.8	<9.4	<47	<62	<300	<30
SW21	9/12/2018	Sidewall	in-situ	<0.23	<0.025	<5.0	<9.9	<49	<64	<300	58
SW22	9/12/2018	Sidewall	in-situ	<0.23	<0.024	<4.8	<9.8	<49	<64	<300	240

"--" = Not Analyzed

APPENDIX A FORM C141

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 Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Page 14 of 112

Incident ID	nCH1825355191
District RP	1RP-5187
Facility ID	
Application ID	pCH1825356049

Release Notification

Responsible Party

Responsible Party Marathon Oil Permian LLC	OGRID 020305 372098
Contact Name Callie Karrigan	Contact Telephone 575-297-0956
Contact email cnkarrigan@marathonoil.com	Incident # NCH1825355191 ABE UNIT 2 @
Contact mailing address 4111 Tidwell Road Carlsbad NM 88220	30-025-34146

Location of Release Source

Latitude <u>32.4</u>48363

Longitude -103.575446 (NAD 83 in decimal degrees to 5 decimal places)

Site Name Abe Unit 2	Site Type oil
Date Release Discovered 9/2/2018	API# (<i>if applicable</i>) 30-025-34146

Unit Letter	Section	Township	Range	County
Н	29	21S	33E	Lea

Surface Owner: X State Federal Tribal X Private (Name: Merchant Livestock

State Minerals

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
X Produced Water	Volume Released (bbls) 200 bbls	Volume Recovered (bbls) 1 bbl
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	X Yes No
Condensate	Volume Released (bbls)	Volume Recovered (bbls)
Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

At approximately 1:45 pm 9/2/18, Marathon received a third party notification that a flowline between the Abe Unit 2 and the Battle 34 Federal 4H was leaking. Upon further investigation, the pumper found the water transfer line had ruptured and released an estimated 200 barrels of produced water in the surrounding area of the line. The Pumper had previously began transferring water between the Battle 34 Federal 4H and the Battle 1H locations. The valve on the discharge line was not verified open before the transfer began, resulting the line to deadhead and release the volume through the rupture.

eceived by OCD: 2/27/202	23 4:16:17 PM State of New Mexico			Page 15 of	
	Oil Conservation Division		Incident ID	nCH1825355191	
age 2	On Conservation Division		District RP	1RP-5187	
			Facility ID		
		l	Application ID	pCH1825356049	
Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the respon This release exceeded 25 barrels.	nsible party consider	this a major release	?	
X Yes 🗌 No					
If YES, was immediate n	otice given to the OCD? By whom? To wh	nom? When and by w	what means (phone,	email, etc)?	
Notification provided by	Callie Karrigan via email 9/2/2018 10:15 P	M			
	Initial Ro	esponse			
The responsible	party must undertake the following actions immediatel	y unless they could create	a safety hazard that woi	ıld result in injury	
x The source of the rele	ease has been stopped.				
	as been secured to protect human health and	the environment.			
Released materials ha	ave been contained via the use of berms or d	likes, absorbent pads,	or other containme	ent devices.	
X All free liquids and r	ecoverable materials have been removed and	d managed appropria	tely.		
Fluid transfer was comm	d above have <u>not</u> been undertaken, explain we nenced and a vac truck was dispatched to rec ency one call was placed to recover and dispo e leak.	over standing liquids			
has begun, please attach	IAC the responsible party may commence real a narrative of actions to date. If remedial on the area (see 19.15.29.11(A)(5)(a) NMAC), p	efforts have been suc	cessfully complete	d or if the release occurred	
regulations all operators are public health or the environ failed to adequately investig	prmation given above is true and complete to the larequired to report and/or file certain release notine ment. The acceptance of a C-141 report by the C gate and remediate contamination that pose a three of a C-141 report does not relieve the operator of	fications and perform co OCD does not relieve the at to groundwater, surfa	orrective actions for r e operator of liability ace water, human heal	eleases which may endanger should their operations have lth or the environment. In	
Printed Name: Callie Ka	rrigan	Title: HES Profe	ssional		
Signature: <u>Callis</u> A	Karrigan	Date: 9/7/18			
email: <u></u>	0	Telephone: 575-2			
OCD Only RECE	IVED				

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By CHernandez at 3:02 pm, Sep 10, 2018

Date:_____

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Oil Conservation Division

Incident ID	nCH1825355191
District RP	1RP-5187
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Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>179</u> (ft bgs)
Did this release impact groundwater or surface water?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	🗌 Yes 🛛 No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	🗌 Yes 🛛 No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	🗌 Yes 🛛 No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	🗌 Yes 🛛 No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of a wetland?	🗌 Yes 🛛 No
Are the lateral extents of the release overlying a subsurface mine?	🗌 Yes 🛛 No
Are the lateral extents of the release overlying an unstable area such as karst geology?	🗌 Yes 🛛 No
Are the lateral extents of the release within a 100-year floodplain?	🗌 Yes 🛛 No
Did the release impact areas not on an exploration, development, production, or storage site?	🗌 Yes 🔀 No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: Each of the following items must be included in the report.

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- \square Depth to water determination
- Determination of water sources and significant watercourses within ¹/₂-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

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Form C-141			Incident ID	nCH1825355191						
Page 4	Oil Conservation Division		District RP	1RP-5187						
			Facility ID							
			Application ID	pCH1825356049						
regulations all operators are red public health or the environmen failed to adequately investigate addition, OCD acceptance of a and/or regulations. Printed Name:Callie Kar Signature:Callie Callie	ation given above is true and complete to the b quired to report and/or file certain release notifi nt. The acceptance of a C-141 report by the OG and remediate contamination that pose a threa C-141 report does not relieve the operator of re- rrigan Ti Karrígan Ti	ications and perform cc CD does not relieve the it to groundwater, surfa esponsibility for compl itle:HES Profe	rrective actions for rele operator of liability sho ce water, human health iance with any other feo essional	ases which may endanger ould their operations have or the environment. In deral, state, or local laws						
OCD Only Received by: Jocely	yn Harimon	Date:03	/22/2023							

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Oil Conservation Division

Incident ID	nCH1825355191
District RP	1RP-5187
E. Hiter ID	
Facility ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: Each of the following items must be included in the closure report. A scaled site and sampling diagram as described in 19.15.29.11 NMAC Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection) Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling) Description of remediation activities I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete. Printed Name: ____Callie Karrigan_____ Title: ____HES Professional_____ Signature: *Callie Karrigan*_____ Date: __11/29/18_____ Telephone: 575-297-0956 email: cnkarrigan@marathonoil.com **OCD Only** Date: 03/22/2023 Received by: Jocelyn Harimon Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations. Date: 03/22/2023 Closure Approved by: Title: Environmental Specialist Jocelyn Harimon Printed Name:

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 16	-	Sec	Tws	Rna	Х	Y	Distance	-	-	Water Column		
CP 00854 POD1	CP	LE	1	1	2			33E	633879	3590223 🌍	805	950	600	350		
CP 00601 POD1	CP	LE		2	1	28	21S	33E	633502	3591791* 🌍	861	223				
CP 01355 POD1	CP	LE	2	1	3	27	21S	33E	634773	3591061 🌍	869	1192	582	610		
CP 01357 POD1	CP	LE	4	3	1	27	21S	33E	634782	3591347 🌍	934	1286	578	708		
CP 01356 POD1	CP	LE	4	2	2	33	21S	33E	634560	3590014 🌍	1207	1098	555	543		
CP 01349 POD1	CP	LE	2	3	1	27	21S	33E	635304	3591576 🌍	1503	1188	572	616		
										Avera	ge Depth to	Water:	577	feet		
											Minimum	Depth:	555	feet		
											Maximum	Depth:	600	feet		
Record Count: 6																

Record Count: 6

UTMNAD83 Radius Search (in meters):

Easting (X): 633903.73

Northing (Y): 3591028.37

Radius: 1610

Page 20 of 112

*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.



National Water Information System: Web Interface USGS Water Resources

USGS Home Contact USGS Search USGS

 Data Category:
 Geographic Area:

 Groundwater
 ▼
 United States
 ▼
 GO

Click to hideNews Bulletins

- Please see news on new formats
- Full News 🔊

Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs site_no list =

• 322702103344001

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 322702103344001 21S.33E.28.12443

Lea County, New Mexico Latitude 32°27'13", Longitude 103°34'42" NAD27 Land-surface elevation 3,688.00 feet above NGVD29 The depth of the well is 224 feet below land surface. This well is completed in the Chinle Formation (231CHNL) local aquifer.

output formats
Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	? Water- level date- time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water- level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water- level approval status

Date	Time	? Water- level date- time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water- level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water- level approval status
1971-02-04		D	178.62			2		U		U	А
1972-09-22		D	178.60			2		U		U	А
1976-12-16		D	178.86			2		U		U	А
1981-03-10		D	184.67			2		U		U	А
1986-03-20		D	179.24			2		U		U	А
1991-04-19		D	179.10			2		U		U	А
1996-02-21		D	178.85			2		S		U	Α

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	S	Steel-tape measurement.
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	А	Approved for publication Processing and review completed.

Questions about sites/data? Feedback on this web site Automated retrievals Help Data Tips Explanation of terms Subscribe for system changes News

Accessibility Plug-Ins FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey Title: Groundwater for USA: Water Levels URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?



Page Contact Information: USGS Water Data Support Team Page Last Modified: 2018-10-15 17:18:59 EDT 0.51 0.44 nadww01

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APPENDIX C SAMPLING PROTOCOL & FIELD NOTES



Sampling Protocol

Representatives from SMA chose the Judgmental Sampling Method as described in EPA's Final Sampling Guidance for SW-846, 2002 to adequately quantify contaminant concentrations on the Abe Unit #2 Location. The utility of this particular method functions on the sufficient knowledge of the contaminant, which we possess. This design is also useful when identifying the composition of a release, which we have documented. In addition, this sampling design was chosen for this project because of the locations uniform soil type.

The soil samples were collected in laboratory supplied containers in accordance with this sampling protocol, immediately placed on ice and sent under standard chain-of-custody protocols to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for analysis. A total of forty-eight (48) samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D.

Sampling Analysis Field Quality Assurance Procedures

A unique sample numbering was used to identify each sample collected and designated for on-site and off-site laboratory analysis. The purpose of this numbering scheme was to provide a tracking system for the retrieval of analytical and field data on each sample. Sample identification numbers were recorded on sample labels or tags, field notes, chain-of-custody records (COC) and all other applicable documentation used during the project. Sample labels were affixed to all sample containers during sampling activities. Information was recorded on each sample container label at the time of sample collection. The information recorded on the labels were as follows: sample identification number; sample type (discrete or composite); site name and area/location number; analysis to be performed; type of chemical preservative present in container; date and time of sample collection; and sample collector's name and initials. All samples were packed in ice in an approved rigid body container, custody sealed signed and shipped to the appropriate laboratory via insured currier service.

COC procedures implemented for the project provided documentation of the handling of each sample from the time of collection until completion of laboratory analysis. A COC form serves as a legal record of possession of the sample. A sample is considered to be under custody if one or more of the following criteria are met: the sample is in the sampler's possession; the sample is in the sampler's view after being in possession; the sample was in the sampler's possession and then was placed into a locked area to prevent tampering; and/or the sample is in a designated secure area. Custody was documented throughout the project field sampling activities by a chain-of custody form initiated each day during which samples are collected. Container custody seals placed on either individual samples or on the rigid body container were used to ensure that no sample tampering occurs between the time the samples are placed into the containers and the time the containers are opened for analysis at the laboratory. Container custody seals were signed and dated by the individual responsible for completing the COC form contained within the container.

Field Screening BZ of Y													
Ah	2/1	Date 2 /1 8											
Location Name	Description	Depth (Feet BGS)	Time Collected	Te my Time Screened	PID-Reading (ppm)	Ľ							
SWX	Sundy	6"	7:09	18.00	0.09								
C57-2	Sunt	(¥)	7:16	18.40	0.30								
รบแ	Sand/Gl.the	1'	7:40	18.50	0.07								
CS9-1	Sund	1'	7:43	18.70	0.06								
うしょ	Surl		7:54	18.50	0.08								
5~6	Saul		7:.59	19.00	0./0								
SW7	Surl		8:05	1.9.10	0.24								
SWIZ	5	1	8:3/	18.90	0.17								
Sw 13	5	(8:35	17.00									
(58-1	S/Cabela	l	8:38	19.00	0.06								
SWID	5	2.5	8:57	19.30	0.50								
L1	Š	-71'	10923	20.0	0,15								

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		d Screer	ning	P3.3	of y										
	Ake Unst #2														
Location Name	Description	Depth (Feet BGS)	Time Collecte	d Filled	PHD Reading										
CS3-3.5	Calile	3-5	9.25	20.10	0.17										
Sw19	Sand	Su	9:30	19.60	0.08										
SW22	5	SW	2.54	19.90	0.30										
5415	S	500	10:40	20,10	0.08										
SWS	5	Siv	10:49	21.00	0.08										
<u>CS6-25</u>	Calab	2.5	10:52	21.20	0.14										
(32-3,5	Calide	3.5	11.10	20.70	0.08										
SWIT	5		11:22	21.70	0.24										
SWIX	S	3.5	1	22.70	0.11										

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Page 29 of	Pro SM	Project: Project # SMA Fielo	Project: Project # SMA Field Tech:					Borehs Ríg/Sa Driller:	Borehole# Rig/SamplerType: Driller:			Start Date/Time: Stop Date/Time: Borehole Diameter:
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Notes:

Photo Log Photo Taken September 12, 2018 Facing south 32.449565 °, -103.576055°



Photo Taken September 12, 2018 Facing North 32.449523°, -103.576301°



Photo Taken September 12, 2018 Facing West 32.449411°, -103.576337°



APPENDIX D LABORATORY ANALYTICAL REPORTS



September 18, 2018

Austin Weyant Souder, Miller & Associates 201 S Halagueno Carlsbad, NM 88221 TEL: (575) 689-7040 FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

RE: Abe/ Battle

OrderNo.: 1809456

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 16 sample(s) on 9/8/2018 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 <u>www.hallenvironmental.com</u> 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,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Project: Abe/ Battle

Surr: Toluene-d8

Analytical Report Lab Order 1809456

9/13/2018 6:02:54 AM

40261

Hall Environmental Analysis Laboratory, I	nc. Date Reported: 9/18/2018
CLIENT: Souder, Miller & Associates	Client Sample ID: L1-1.5

Client Sample ID: L1-1.5 Collection Date: 9/5/2018 9:22:00 AM

Lab ID: 1809456-001	Matrix: SOIL]	Received Date	e: 9/8	3/2018 8:15:00 AM	
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE	RANGE				Analysi	t: RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/13/2018 6:02:54 AM	40261
Surr: BFB	105	70-130	%Rec	1	9/13/2018 6:02:54 AM	40261
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS				Analyst	t: Irm
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/14/2018 12:39:04 AN	1 40273
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/14/2018 12:39:04 AN	40273
Surr: DNOP	116	50.6-138	%Rec	1	9/14/2018 12:39:04 AN	1 40273
EPA METHOD 8260B: VOLATILES SHO	RT LIST				Analyst	t: RAA
Benzene	ND	0.024	mg/Kg	1	9/13/2018 6:02:54 AM	40261
Toluene	ND	0.048	mg/Kg	1	9/13/2018 6:02:54 AM	40261
Ethylbenzene	ND	0.048	mg/Kg	1	9/13/2018 6:02:54 AM	40261
Xylenes, Total	ND	0.096	mg/Kg	1	9/13/2018 6:02:54 AM	40261
Surr: 4-Bromofluorobenzene	118	70-130	%Rec	1	9/13/2018 6:02:54 AM	40261

95.5

70-130

%Rec

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 22 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analysis	s Laboratory, I	nc.			Analytical Report Lab Order 1809456 Date Reported: 9/18/2	2018
CLIENT: Souder, Miller & Associates Project: Abe/ Battle Lab ID: 1809456-002	Matrix: SOIL	Coll		t e: 9/5	-3.5 5/2018 9:31:00 AM 3/2018 8:15:00 AM	
Analyses	Result	PQL Qu	ual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS Chloride	ND	30	mg/Kg	20		st: MRA / 40359

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

- * 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 Quanitative 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 Page 2 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809456

Date Reported: 9/18/2018

CLIENT: Souder, Miller & Associates			Cl	ient Sample II): L2	2-1.5				
Project:	Abe/ Battle		Collection Date: 9/5/2018 9:38:00 AM							
Lab ID:	1809456-003	Matrix: SOIL		Received Dat	e: 9/8	8/2018 8:15:00 AM				
Analyses		Result	PQL	Qual Units	DF	Date Analyzed	Batch			
EPA MET	HOD 300.0: ANIONS					Analyst	: MRA			
Chloride		32	30	mg/Kg	20	9/14/2018 7:49:36 PM	40359			
EPA MET	HOD 8015D MOD: GASOLINE	RANGE				Analyst	: RAA			
Gasoline	Range Organics (GRO)	ND	5.0	mg/Kg	1	9/13/2018 6:25:47 AM	40261			
Surr: E	3FB	99.0	70-130	%Rec	1	9/13/2018 6:25:47 AM	40261			
EPA MET	HOD 8015M/D: DIESEL RANG	GE ORGANICS				Analyst	: Irm			
Diesel Ra	ange Organics (DRO)	ND	10	mg/Kg	1	9/14/2018 1:00:59 AM	40273			
Motor Oil	Range Organics (MRO)	ND	50	mg/Kg	1	9/14/2018 1:00:59 AM	40273			
Surr: D	DNOP	117	50.6-138	%Rec	1	9/14/2018 1:00:59 AM	40273			
EPA MET	HOD 8260B: VOLATILES SHO	ORT LIST				Analyst	: RAA			
Benzene		ND	0.025	mg/Kg	1	9/13/2018 6:25:47 AM	40261			
Toluene		ND	0.050	mg/Kg	1	9/13/2018 6:25:47 AM	40261			
Ethylben	zene	ND	0.050	mg/Kg	1	9/13/2018 6:25:47 AM	40261			
Xylenes,	Total	ND	0.099	mg/Kg	1	9/13/2018 6:25:47 AM	40261			
Surr: 4	I-Bromofluorobenzene	111	70-130	%Rec	1	9/13/2018 6:25:47 AM	40261			
Surr: 7	Toluene-d8	93.7	70-130	%Rec	1	9/13/2018 6:25:47 AM	40261			

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

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank

- Е Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 22 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809456

Date Reported: 9/18/2018

CLIENT: Souder, Miller & Associates	Client Sample ID: L3-1							
Project: Abe/ Battle	Collection Date: 9/5/2018 10:01:00 AM							
Lab ID: 1809456-004	Matrix: SOIL	3/2018 8:15:00 AM						
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS					Analyst	MRA		
Chloride	50	30	mg/Kg	20	9/14/2018 8:02:01 PM	40359		
EPA METHOD 8015D MOD: GASOLINE F	RANGE				Analyst	RAA		
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/13/2018 6:48:52 AM	40261		
Surr: BFB	102	70-130	%Rec	1	9/13/2018 6:48:52 AM	40261		
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm		
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/14/2018 1:22:54 AM	40273		
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/14/2018 1:22:54 AM	40273		
Surr: DNOP	119	50.6-138	%Rec	1	9/14/2018 1:22:54 AM	40273		
EPA METHOD 8260B: VOLATILES SHOP	RT LIST				Analyst	: RAA		
Benzene	ND	0.024	mg/Kg	1	9/13/2018 6:48:52 AM	40261		
Toluene	ND	0.049	mg/Kg	1	9/13/2018 6:48:52 AM	40261		
Ethylbenzene	ND	0.049	mg/Kg	1	9/13/2018 6:48:52 AM	40261		
Xylenes, Total	ND	0.098	mg/Kg	1	9/13/2018 6:48:52 AM	40261		
Surr: 4-Bromofluorobenzene	115	70-130	%Rec	1	9/13/2018 6:48:52 AM	40261		
Surr: Toluene-d8	93.8	70-130	%Rec	1	9/13/2018 6:48:52 AM	40261		

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 22 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analysis Laboratory, Inc.					Analytical Report Lab Order 1809456 Date Reported: 9/18/2018			
CLIENT: Souder, Miller & Associates Project: Abe/ Battle Lab ID: 1809456-005	Matrix: SOIL	Client Sample ID: L4-2.5 Collection Date: 9/5/2018 10:24:00			-2.5 5/2018 10:24:00 AM			
Analyses	Result	PQL Qu	ual Units	DF	Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS Chloride	60	30	mg/Kg	20	Analy 9/14/2018 8:39:15 PN	st: MRA / 40359		

Qualifiers:	:
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- * 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 Quanitative 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 Page 5 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809456

Date Reported: 9/18/2018

CLIENT: Souder, Miller & Associates	Client Sample ID: L5-1.5						
Project: Abe/ Battle	Collection Date: 9/5/2018 10:40:00 AM						
Lab ID: 1809456-006	Matrix: SOIL		Received Date	e: 9/8	3/2018 8:15:00 AM		
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analyst	MRA	
Chloride	380	30	mg/Kg	20	9/14/2018 8:51:39 PM	40359	
EPA METHOD 8015D MOD: GASOLINE	RANGE				Analyst	RAA	
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/13/2018 7:11:54 AM	40261	
Surr: BFB	103	70-130	%Rec	1	9/13/2018 7:11:54 AM	40261	
EPA METHOD 8015M/D: DIESEL RANGI	E ORGANICS				Analyst	: Irm	
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/14/2018 1:44:57 AM	40273	
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/14/2018 1:44:57 AM	40273	
Surr: DNOP	116	50.6-138	%Rec	1	9/14/2018 1:44:57 AM	40273	
EPA METHOD 8260B: VOLATILES SHO	RT LIST				Analyst	RAA	
Benzene	ND	0.025	mg/Kg	1	9/13/2018 7:11:54 AM	40261	
Toluene	ND	0.049	mg/Kg	1	9/13/2018 7:11:54 AM	40261	
Ethylbenzene	ND	0.049	mg/Kg	1	9/13/2018 7:11:54 AM	40261	
Xylenes, Total	ND	0.099	mg/Kg	1	9/13/2018 7:11:54 AM	40261	
Surr: 4-Bromofluorobenzene	116	70-130	%Rec	1	9/13/2018 7:11:54 AM	40261	
Surr: Toluene-d8	92.7	70-130	%Rec	1	9/13/2018 7:11:54 AM	40261	

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

- Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 6 of 22 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

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Hall Environmental Analysis		Analytical Report Lab Order 1809456 Date Reported: 9/18/2018				
CLIENT: Souder, Miller & Associates Project: Abe/ Battle Lab ID: 1809456-007	Client Sample ID: L5-2.5 Collection Date: 9/5/201 Matrix: SOIL Received Date: 9/8/201			/2018 10:45:00 AM		
Analyses	Result	PQL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS	ND	30	mg/Kg	20	Analy 9/14/2018 9:04:03 PM	st: MRA 40359

- * 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 Quanitative 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 Page 7 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Project: Abe/ Battle

Surr: Toluene-d8

CLIENT: Souder, Miller & Associates

Analytical Report Lab Order 1809456

9/13/2018 7:34:57 AM

40261

Hall Environmental Analysis Laboratory, Inc.	Date Reporte

ted: 9/18/2018

Client Sample ID: L6-1 Collection Date: 9/5/2018 10:50:00 AM

Lab ID:	1809456-008	Matrix: SOIL	Received Date: 9/8/2018 8:15:00 AM				
Analyses		Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA MET	THOD 8015D MOD: GASOL	INE RANGE				Analys	t: RAA
Gasoline	e Range Organics (GRO)	ND	4.8	mg/Kg	1	9/13/2018 7:34:57 AM	40261
Surr: I	BFB	107	70-130	%Rec	1	9/13/2018 7:34:57 AM	40261
EPA MET	THOD 8015M/D: DIESEL RA	ANGE ORGANICS				Analys	t: Irm
Diesel R	ange Organics (DRO)	ND	9.6	mg/Kg	1	9/14/2018 2:06:55 AM	40273
Motor Oi	I Range Organics (MRO)	ND	48	mg/Kg	1	9/14/2018 2:06:55 AM	40273
Surr: I	DNOP	92.7	50.6-138	%Rec	1	9/14/2018 2:06:55 AM	40273
EPA MET	THOD 8260B: VOLATILES	SHORT LIST				Analys	t: RAA
Benzene)	ND	0.024	mg/Kg	1	9/13/2018 7:34:57 AM	40261
Toluene		ND	0.048	mg/Kg	1	9/13/2018 7:34:57 AM	40261
Ethylben	izene	ND	0.048	mg/Kg	1	9/13/2018 7:34:57 AM	40261
Xylenes,	Total	ND	0.097	mg/Kg	1	9/13/2018 7:34:57 AM	40261
Surr: 4	4-Bromofluorobenzene	119	70-130	%Rec	1	9/13/2018 7:34:57 AM	40261

99.8

70-130

%Rec

1

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 8 of 22 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analysis Laboratory, Inc.			Analytical Report Lab Order 1809456 Date Reported: 9/18/2018			
CLIENT: Souder, Miller & Associates Project: Abe/ Battle Lab ID: 1809456-009	Client Sample ID: L6-2.5 Collection Date: 9/5/2018 10:58:00 A Matrix: SOIL Received Date: 9/8/2018 8:15:00 A			5/2018 10:58:00 AM		
Analyses	Result	PQL Qu	ual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS Chloride	70	30	mg/Kg	20	Analy 9/14/2018 9:16:28 PM	st: MRA / 40359

- * 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 Quanitative 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 Page 9 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.			Analytical Report Lab Order 1809456 Date Reported: 9/18/2018			
CLIENT: Souder, Miller & Associates Project: Abe/ Battle Lab ID: 1809456-010	Matrix: SOIL	Client Sample ID: L7-2.5 Collection Date: 9/5/2018 11:15:00 AM Received Date: 9/8/2018 8:15:00 AM				
Analyses	Result	PQL Qı	ual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS Chloride	38	30	mg/Kg	20	Analy 9/14/2018 9:28:52 PN	st: MRA 1 40359

- * 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 Quanitative 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 Page 10 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Gasoline Range Organics (GRO)

Diesel Range Organics (DRO)

Motor Oil Range Organics (MRO)

Surr: 4-Bromofluorobenzene

EPA METHOD 8015D MOD: GASOLINE RANGE

EPA METHOD 8260B: VOLATILES SHORT LIST

EPA METHOD 8015M/D: DIESEL RANGE ORGANICS

Chloride

Surr: BFB

Surr: DNOP

Benzene

Toluene

Ethylbenzene

Xylenes, Total

Surr: Toluene-d8

Analytical Report

9/14/2018 9:41:16 PM

9/13/2018 7:57:54 AM

9/13/2018 7:57:54 AM

9/14/2018 2:29:17 AM

9/14/2018 2:29:17 AM

9/14/2018 2:29:17 AM

9/13/2018 7:57:54 AM

40359

40261

40261

40273

40273

40273

40261

40261

40261

40261

40261

40261

Analyst: RAA

Analyst: Irm

Analyst: RAA

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809456 Date Reported: 9/18/2018

EPA METHOD 300.0: ANIONS		Analyst: N	٨RΔ			
Analyses	Result	PQL Qual Units DF Date Analyzed B	atch			
Lab ID: 1809456-011	Matrix: SOIL	Received Date: 9/8/2018 8:15:00 AM				
Project: Abe/ Battle		Collection Date: 9/5/2018 11:38:00 AM				
CLIENT: Souder, Miller & Associates		Client Sample ID: L8-1.5				

mg/Kg

mg/Kg

%Rec

mg/Kg

mg/Kg

%Rec

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%Rec

%Rec

20

1

1

1

1

1

1

1

1

1

1

1

30

4.8

9.8

49

50.6-138

0.024

0.048

0.048

0.097

70-130

70-130

70-130

ND

ND

105

ND

ND

81.1

ND

ND

ND

ND

119

95.6

Refer to the QC Summary report and	sample login checklist f	for flagged OC data and	I preservation information
Keler to the QC Summary report and	sample login checklist i	ior naggeu QC uata and	preservation mormation.

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Practical Quanitative Limit PQL
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 11 of 22 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809456

Date Reported: 9/18/2018

CLIENT: Souder, Miller & Associates	Client Sample ID: L9-1						
Project: Abe/ Battle	Collection Date: 9/5/2018 12:12:00 PM						
Lab ID: 1809456-012	Matrix: SOIL Received Date: 9/8/2018 8:15:00 /						
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analyst	: MRA	
Chloride	ND	30	mg/Kg	20	9/14/2018 9:53:41 PM	40359	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm	
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/14/2018 5:46:59 AM	40299	
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/14/2018 5:46:59 AM	40299	
Surr: DNOP	88.3	50.6-138	%Rec	1	9/14/2018 5:46:59 AM	40299	
EPA METHOD 8015D: GASOLINE RANGE					Analyst	: NSB	
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	9/12/2018 4:40:20 PM	40280	
Surr: BFB	96.7	15-316	%Rec	1	9/12/2018 4:40:20 PM	40280	
EPA METHOD 8021B: VOLATILES					Analyst	: NSB	
Benzene	ND	0.023	mg/Kg	1	9/12/2018 4:40:20 PM	40280	
Toluene	ND	0.047	mg/Kg	1	9/12/2018 4:40:20 PM	40280	
Ethylbenzene	ND	0.047	mg/Kg	1	9/12/2018 4:40:20 PM	40280	
Xylenes, Total	ND	0.093	mg/Kg	1	9/12/2018 4:40:20 PM	40280	
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	9/12/2018 4:40:20 PM	40280	

- * Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 12 of 22 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analysis Laboratory, Inc.			Analytical Report Lab Order 1809456 Date Reported: 9/18/2018			
CLIENT: Souder, Miller & Associates Project: Abe/ Battle Lab ID: 1809456-013	Client Sample ID: L10-2.5 Collection Date: 9/5/2018 12:21:00 Matrix: SOIL Received Date: 9/8/2018 8:15:00 /			0-2.5 5/2018 12:21:00 PM		
Analyses	Result	PQL Qu	ual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS Chloride	ND	30	mg/Kg	20	Analy 9/14/2018 10:06:06 P	st: MRA M 40359

Qualifiers:	
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- * 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 Quanitative 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 Page 13 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Surr: 4-Bromofluorobenzene

40280

Analytical Report

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809456

Date Reported: 9/18/2018

CLIENT: Souder, Miller & Associates		Cl	ient Sample II	D: L1	1-1.5	
Project: Abe/ Battle		(Collection Dat	e: 9/5	5/2018 12:28:00 PM	
Lab ID: 1809456-014	Matrix: SOIL		Received Dat	e: 9/8	3/2018 8:15:00 AM	
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: smb
Chloride	79	30	mg/Kg	20	9/16/2018 11:42:25 AM	40365
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/14/2018 6:08:57 AM	40299
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/14/2018 6:08:57 AM	40299
Surr: DNOP	92.8	50.6-138	%Rec	1	9/14/2018 6:08:57 AM	40299
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	9/12/2018 5:03:51 PM	40280
Surr: BFB	96.5	15-316	%Rec	1	9/12/2018 5:03:51 PM	40280
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.025	mg/Kg	1	9/12/2018 5:03:51 PM	40280
Toluene	ND	0.050	mg/Kg	1	9/12/2018 5:03:51 PM	40280
Ethylbenzene	ND	0.050	mg/Kg	1	9/12/2018 5:03:51 PM	40280
Xylenes, Total	ND	0.10	mg/Kg	1	9/12/2018 5:03:51 PM	40280

102

80-120

%Rec

1

9/12/2018 5:03:51 PM

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

- Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 14 of 22 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

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Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809456

Date Reported: 9/18/2018

9/12/2018 5:27:21 PM

9/12/2018 5:27:21 PM

9/12/2018 5:27:21 PM

40280

40280

40280

CLIENT:Souder, Miller & AssociatesProject:Abe/ BattleLab ID:1809456-015	Matrix: SOIL	Co		e: 9/5	22 5/2018 12:34:00 PM 8/2018 8:15:00 AM	
Analyses	Result	PQL (Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: smb
Chloride	700	30	mg/Kg	20	9/16/2018 11:54:49 AM	40365
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS				Analyst	: Irm
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/14/2018 6:30:54 AM	40299
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/14/2018 6:30:54 AM	40299
Surr: DNOP	89.7	50.6-138	%Rec	1	9/14/2018 6:30:54 AM	40299
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	9/12/2018 5:27:21 PM	40280
Surr: BFB	96.1	15-316	%Rec	1	9/12/2018 5:27:21 PM	40280
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.025	mg/Kg	1	9/12/2018 5:27:21 PM	40280
Toluene	ND	0.050	mg/Kg	1	9/12/2018 5:27:21 PM	40280

ND

ND

102

0.050

0.099

80-120

mg/Kg

mg/Kg

%Rec

1

1

1

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

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 15 of 22 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analysis	s Laboratory, l	Inc.			Analytical Report Lab Order 1809456 Date Reported: 9/18/2	2018
CLIENT: Souder, Miller & Associates Project: Abe/ Battle Lab ID: 1809456-016	Matrix: SOIL	Coll		e: 9/5	2-3 5/2018 12:40:00 PM 3/2018 8:15:00 AM	
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS Chloride	39	30	mg/Kg	20	Analy 9/16/2018 12:07:13 F	st: smb M 40365

Qualifiers:	:
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- * 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 Quanitative 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 Page 16 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Client: Project:		er, Miller & Associates Battle							
Sample ID	MB-40359	SampType: mblk	TestCode: EPA Method 300.0: Anions						
Client ID:	PBS	Batch ID: 40359	RunNo: 54186						
Prep Date:	9/14/2018	Analysis Date: 9/14/2018	SeqNo: 1791703	Units: mg/Kg					
Analyte Chloride		Result PQL SPK value ND 1.5	e SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit (Qual			
Sample ID	LCS-40359	SampType: Ics	TestCode: EPA Method						
Client ID:	LCSS	Batch ID: 40359	RunNo: 54186						
Prep Date:	9/14/2018	Analysis Date: 9/14/2018	SeqNo: 1791704	Units: mg/Kg					
Analyte		Result PQL SPK value	e SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit (Qual			
Chloride		14 1.5 15.00) 0 93.5 90	110					
Sample ID	MB-40365	SampType: mblk	TestCode: EPA Method	l 300.0: Anions					
Client ID:	PBS	Batch ID: 40365	RunNo: 54187						
Prep Date:	9/16/2018	Analysis Date: 9/16/2018	SeqNo: 1791982	Units: mg/Kg					
Analyte		Result PQL SPK value	e SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit (Qual			
Chloride		ND 1.5							
Sample ID	LCS-40365	SampType: Ics	TestCode: EPA Method	1 300.0: Anions					
Client ID:	LCSS	Batch ID: 40365	RunNo: 54187						
Prep Date:	9/16/2018	Analysis Date: 9/16/2018	SeqNo: 1791983	Units: mg/Kg					
Analyte		Result PQL SPK value	e SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit (Qual			
Chloride		14 1.5 15.00	0 94.4 90	110					

Qualifiers:

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- S % Recovery outside of range due to dilution or matrix
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- 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

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Client:Souder,Project:Abe/ Ba	Miller & Associates ttle							
Sample ID MB-40273	SampType: MBLK	Tes	TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID: PBS	Batch ID: 40273	F	RunNo: 54091					
Prep Date: 9/11/2018	Analysis Date: 9/13/2018	S	SeqNo: 1790205	Units: mg/Kg				
Analyte	Result PQL SPK v	alue SPK Ref Val	%REC LowLimit	HighLimit %RPD	RPDLimit Qual			
Diesel Range Organics (DRO)	ND 10							
Motor Oil Range Organics (MRO)	ND 50							
Surr: DNOP	11 10	0.00	106 50.6	138				
Sample ID LCS-40273	SampType: LCS	Tes	tCode: EPA Method	8015M/D: Diesel Rang	e Organics			
Client ID: LCSS	Batch ID: 40273	F	RunNo: 54091					
Prep Date: 9/11/2018	Analysis Date: 9/13/2018	S	SeqNo: 1790206	Units: mg/Kg				
Analyte	Result PQL SPK v	alue SPK Ref Val	%REC LowLimit	HighLimit %RPD	RPDLimit Qual			
Diesel Range Organics (DRO)	48 10 50	0.00 0	95.9 70	130				
Surr: DNOP	5.2 5.	000	103 50.6	138				
Sample ID MB-40299	SampType: MBLK	Tes	TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID: PBS	Batch ID: 40299	F	RunNo: 54091					
Prep Date: 9/12/2018	Analysis Date: 9/14/2018	5	SeqNo: 1790276	Units: mg/Kg				
Analyte	Result PQL SPK v	alue SPK Ref Val	%REC LowLimit	HighLimit %RPD	RPDLimit Qual			
Diesel Range Organics (DRO)	ND 10							
Notor Oil Range Organics (MRO)	ND 50							
Surr: DNOP	9.1 10	0.00	91.3 50.6	138				
Sample ID LCS-40299	SampType: LCS	Tes	tCode: EPA Method	8015M/D: Diesel Rang	e Organics			
Client ID: LCSS	Batch ID: 40299	F	RunNo: 54091					
Prep Date: 9/12/2018	Analysis Date: 9/14/2018	S	SeqNo: 1790277	Units: mg/Kg				
Analyte	Result PQL SPK v	alue SPK Ref Val	%REC LowLimit	HighLimit %RPD	RPDLimit Qual			
Diesel Range Organics (DRO)	48 10 50	0.00 0	96.6 70	130				
Surr: DNOP	3.8 5.	000	75.0 50.6	138				

Qualifiers:

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Client: Project:	Souder, M Abe/ Batt	Miller & As tle	sociate	es							
Sample ID	MB-40280	SampTy	vpe: ME	BLK	TestCode: EPA Method 8015D: Gasoline Range						
Client ID:	PBS	Batch	ID: 40	280	F	RunNo: 54096					
Prep Date:	9/11/2018	Analysis Da	ate: 9/	12/2018	5	SeqNo: 1	788284	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
-	e Organics (GRO)	ND	5.0	4000			45	040			
Surr: BFB		970		1000		96.9	15	316			
Sample ID	LCS-40280 SampType: LCS				Tes	TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch	ID: 40	280	F	lunNo: 5	4096				
Prep Date:	9/11/2018	Analysis Da	ate: 9/	12/2018	S	SeqNo: 1	788285	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	je Organics (GRO)	26	5.0	25.00	0	105	75.9	131			
Surr: BFB		1000		1000		105	15	316			
Sample ID	1809456-012AMS	SampTy	/pe: M \$	6	TestCode: EPA Method 8015D: Gasoline Range						
Client ID:	L9-1	Batch	ID: 40	280	RunNo: 54096						
Prep Date:	9/11/2018	Analysis Da	ate: 9/	12/2018	5	SeqNo: 1	788288	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	je Organics (GRO)	29	4.9	24.32	0	121	77.8	128			
Surr: BFB		1000		972.8		107	15	316			
Sample ID	1809456-012AMSI	D SampTy	/pe: M\$	SD	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	е	
Client ID:	L9-1	Batch	ID: 40	280	F	lunNo: 5	4096				
Prep Date:	9/11/2018	Analysis Da	ate: 9/	12/2018	S	SeqNo: 1	788289	Units: mg/k	٤g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	je Organics (GRO)	27	5.0	24.88	0	107	77.8	128	10.3	20	
Surr: BFB		1100		995.0		107	15	316	0	0	

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Client:	Souder, M	Iiller & A	ssociate	s							
Project:	Abe/ Battl	le									
Sample ID M	IB-40280	Samp	Гуре: МЕ	BLK	TestCode: EPA Method 8021B: Volatiles						
Client ID: P	BS	Batc	h ID: 402	280	RunNo: 54096						
Prep Date:	9/11/2018	Analysis [Date: 9/	12/2018	S	eqNo: 1	788316	Units: mg/k	٢g		
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-Bromofl	luorobenzene	1.0		1.000		101	80	120			
Sample ID L	LCS-40280 SampType: LCS				Test	Code: El	PA Method	8021B: Vola	tiles		
Client ID: L	LCSS Batch ID: 40280			R	unNo: 54	4096					
Prep Date: 9	9/11/2018	Analysis Date: 9/12/2018			S	SeqNo: 1788317 Units			٨g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.96	0.025	1.000	0	96.1	77.3	128			
Toluene		0.99	0.050	1.000	0	99.3	79.2	125			
Ethylbenzene		0.98	0.050	1.000	0	97.8	80.7	127			
Xylenes, Total		2.9	0.10	3.000	0	98.0	81.6	129			
Surr: 4-Bromofl	luorobenzene	0.98		1.000		97.8	80	120			
Sample ID 18	809456-014AMS	Samp ⁻	Гуре: МS	5	Test	Code: El	PA Method	8021B: Vola	tiles		
Client ID: L'	11-1.5	Batc	h ID: 40	280	RunNo: 54096						
		Batch ID: 40280 Analysis Date: 9/12/2018						SeqNo: 1788320 Units: mg/Kg			
Prep Date: 9	9/11/2018	Analysis [12/2018	S	eqNo: 1	788320	Units: mg/k	٢g		
Prep Date: 9	9/11/2018	Analysis [Result			S SPK Ref Val	eqNo: 17 %REC	788320 LowLimit	Units: mg/k HighLimit	(g %RPD	RPDLimit	Qual
Analyte	9/11/2018	-	Date: 9/					-	-	RPDLimit	Qual
Analyte Benzene	9/11/2018	Result	Date: 9/ PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	-	RPDLimit	Qual
Analyte Benzene Toluene	9/11/2018	Result 1.1	Date: 9/ PQL 0.023	SPK value 0.9294 0.9294 0.9294	SPK Ref Val 0	%REC 115	LowLimit 68.5	HighLimit 133	-	RPDLimit	Qual
Analyte Benzene Toluene Ethylbenzene	9/11/2018	Result 1.1 1.1	Date: 9/ PQL 0.023 0.046	SPK value 0.9294 0.9294	SPK Ref Val 0 0.009300	%REC 115 120	LowLimit 68.5 75	HighLimit 133 130	-	RPDLimit	Qual
Analyte Benzene Toluene Ethylbenzene		Result 1.1 1.1 1.1	Date: 9/ PQL 0.023 0.046 0.046	SPK value 0.9294 0.9294 0.9294	SPK Ref Val 0 0.009300 0	%REC 115 120 122	LowLimit 68.5 75 79.4	HighLimit 133 130 128	-	RPDLimit	Qual
Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofle		Result 1.1 1.1 1.1 3.4 0.92	Date: 9/ PQL 0.023 0.046 0.046	SPK value 0.9294 0.9294 2.788 0.9294	SPK Ref Val 0 0.009300 0 0	%REC 115 120 122 122 98.8	LowLimit 68.5 75 79.4 77.3 80	HighLimit 133 130 128 131	%RPD	RPDLimit	Qual
Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofle	luorobenzene 809456-014AMSD	Result 1.1 1.1 1.1 3.4 0.92 Samp	Date: 9/ PQL 0.023 0.046 0.046 0.093	SPK value 0.9294 0.9294 2.788 0.9294	SPK Ref Val 0 0.009300 0 0 Test	%REC 115 120 122 122 98.8	LowLimit 68.5 75 79.4 77.3 80 PA Method	HighLimit 133 130 128 131 120	%RPD	RPDLimit	Qual
Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofil Sample ID 18 Client ID: L	luorobenzene 809456-014AMSD 11-1.5	Result 1.1 1.1 1.1 3.4 0.92 Samp	Date: 9/ PQL 0.023 0.046 0.046 0.093 Type: MS h ID: 402	SPK value 0.9294 0.9294 2.788 0.9294 3D 280	SPK Ref Val 0 0.009300 0 0 Test R	%REC 115 120 122 122 98.8 Code: EF	LowLimit 68.5 75 79.4 77.3 80 PA Method 4096	HighLimit 133 130 128 131 120	%RPD	RPDLimit	Qual
Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofil Sample ID 18 Client ID: L	luorobenzene 809456-014AMSD 11-1.5	Result 1.1 1.1 1.1 3.4 0.92 Samp Batc	Date: 9/ PQL 0.023 0.046 0.046 0.093 Type: MS h ID: 402	SPK value 0.9294 0.9294 2.788 0.9294 5D 280 12/2018	SPK Ref Val 0 0.009300 0 0 Test R	%REC 115 120 122 122 98.8 Code: EF	LowLimit 68.5 75 79.4 77.3 80 PA Method 4096	HighLimit 133 130 128 131 120 8021B: Vola	%RPD	RPDLimit	Qual
Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofil Sample ID 18 Client ID: L Prep Date: S Analyte	luorobenzene 809456-014AMSD 11-1.5	Result 1.1 1.1 1.1 3.4 0.92 O Samp Batc Analysis [Result 1.1	Date: 9/ PQL 0.023 0.046 0.046 0.093 Type: MS h ID: 402 Date: 9/ PQL 0.024	SPK value 0.9294 0.9294 2.788 0.9294 5D 280 12/2018 SPK value 0.9434	SPK Ref Val 0 0.009300 0 0 Test R S SPK Ref Val 0	%REC 115 120 122 122 98.8 Code: EF	LowLimit 68.5 75 79.4 77.3 80 PA Method 4096 788321 LowLimit 68.5	HighLimit 133 130 128 131 120 8021B: Volar Units: mg/k	%RPD tiles (g %RPD 1.00		
Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofil Sample ID 18 Client ID: L Prep Date: S Analyte Benzene Toluene	luorobenzene 809456-014AMSD 11-1.5	Result 1.1 1.1 1.1 3.4 0.92 Samp Batc Analysis I Result 1.1 1.1	Date: 9/ PQL 0.023 0.046 0.093 Type: MS h ID: 402 Date: 9/ PQL 0.024 0.047	SPK value 0.9294 0.9294 2.788 0.9294 5D 280 12/2018 SPK value	SPK Ref Val 0 0.009300 0 Test R SPK Ref Val	%REC 115 120 122 122 98.8 Code: EF unNo: 54 eqNo: 1 %REC	LowLimit 68.5 75 79.4 77.3 80 PA Method 4096 788321 LowLimit 68.5 75	HighLimit 133 130 128 131 120 8021B: Vola Units: mg/P HighLimit	%RPD tiles \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	RPDLimit	
Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofil Sample ID 18 Client ID: L ² Prep Date: S Analyte Benzene Toluene Ethylbenzene	luorobenzene 809456-014AMSD 11-1.5	Result 1.1 1.1 1.1 3.4 0.92 Samp Batc Analysis I Result 1.1 1.1 1.1	Date: 9/ PQL 0.023 0.046 0.046 0.093 Fype: MS h ID: 402 Date: 9/ PQL 0.024 0.047 0.047	SPK value 0.9294 0.9294 2.788 0.9294 5D 280 12/2018 SPK value 0.9434 0.9434 0.9434	SPK Ref Val 0 0.009300 0 0 Test R S SPK Ref Val 0	%REC 115 120 122 98.8 Code: EF unNo: 5 eqNo: 17 %REC 114 119 120	LowLimit 68.5 75 79.4 77.3 80 PA Method 4096 788321 LowLimit 68.5 75 79.4	HighLimit 133 130 128 131 120 8021B: Volar Units: mg/H HighLimit 133	%RPD tiles (g %RPD 1.00 0.312 0.225	RPDLimit 20	
Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofil Sample ID 18 Client ID: L ⁴ Prep Date: 9	luorobenzene 809456-014AMSD 11-1.5 9/11/2018	Result 1.1 1.1 1.1 3.4 0.92 Samp Batc Analysis I Result 1.1 1.1	Date: 9/ PQL 0.023 0.046 0.093 Type: MS h ID: 402 Date: 9/ PQL 0.024 0.047	SPK value 0.9294 0.9294 2.788 0.9294 5D 280 12/2018 SPK value 0.9434 0.9434	SPK Ref Val 0 0.009300 0 0 Test R S SPK Ref Val 0 0.009300	%REC 115 120 122 98.8 Code: Ef JunNo: 5 JunNo: 5 AeqNo: 1 %REC 114 119	LowLimit 68.5 75 79.4 77.3 80 PA Method 4096 788321 LowLimit 68.5 75	HighLimit 133 130 128 131 120 8021B: Volar Units: mg/k HighLimit 133 130	%RPD tiles \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	RPDLimit 20 20	

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Client:SouderProject:Abe/ B	, Miller & A attle	ssociate	es							
Sample ID LCS-40261	Samp	Type: LC	S4	TestCode: EPA Method 8260B: Volatiles Short List						
Client ID: BatchQC	Batc	h ID: 40	261	RunNo: 54120						
Prep Date: 9/11/2018	Analysis E	Date: 9/	12/2018	S	SeqNo: 1	788903	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.1	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.1	0.050	1.000	0	105	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	0.53		0.5000		105	70	130			
Surr: Toluene-d8	0.47		0.5000		93.6	70	130			
Sample ID MB-40261	Samp	Гуре: МЕ	BLK	TestCode: EPA Method 8260B: Volatiles Short List						
Client ID: PBS	Batc	h ID: 40	261	R	RunNo: 5	4120				
Prep Date: 9/11/2018	Analysis E	Date: 9/	12/2018	S	SeqNo: 1	788904	Units: mg/k	٢g		
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	0.59		0.5000		118	70	130			
Surr: Toluene-d8	0.49		0.5000		97.4	70	130			

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- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J
- Р Sample pH Not In Range
- Reporting Detection Limit RL
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Client:SouderProject:Abe/ B	, Miller & A attle	ssociate	es							
Sample ID LCS-40261	SampT	ype: LC	S	TestCode: EPA Method 8015D Mod: Gasoline Range						
Client ID: LCSS	Batch	Batch ID: 40261			RunNo: 54120					
Prep Date: 9/11/2018	Analysis D	alysis Date: 9/12/2018 SeqNo: 1788852					Units: mg/k	٢g		
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	70	130			
Surr: BFB	490		500.0		98.1	70	130			
Sample ID MB-40261	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D Mod:	Gasoline	Range	
Client ID: PBS	Batch	n ID: 40 2	261	R	unNo: 5	4120				
Prep Date: 9/11/2018	Analysis D	0ate: 9/	12/2018	S	eqNo: 1	788853	Units: mg/k	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	520		500.0		104	70	130			

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- S % Recovery outside of range due to dilution or matrix
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	TE	L: 505-345-	ental Analysis L 4901 Ha Albuquerque, 1 3975 FAX: 505 w.hallenvironn	wkins NE VM 87105 -345-4107	Sample Log-In Check List							
Client Name:	SMA-CARI	SBAD	Work		iber: 1809456			RcptNo	: 1			
Received By:	Erin Mele	ndrez	9/8/201	8 8:15:00 A	M	Ń	int	, 5				
Completed By:	Ashley Ga	allegos	9/10/20	18 12:26:3	9 PM	9	¥7					
Reviewed By:	ENN	1	9/10,	18	м Эрм Label	ed l	by:	JAB	09/10/18			
Chain of Cu	stody											
1. Is Chain of (Custody comp	lete?			Yes 🗹		No 🗌	Not Present				
2. How was the	e sample deliv	rered?			<u>Courier</u>							
Log In 3. Was an atte	mot made to d	cool the same			Yes 🗹		No 🗌	NA 🗖				
	inpl made to t	oor the sample	657		res 💌							
4. Were all sam	ples received	l at a temperat	ure of >0°C1	o 6.0°C	Yes 🗹		No 🗌	NA 🗌				
5. Sample(s) in	proper conta	iner(s)?			Yes 🗹		No 🗌					
6. Sufficient sar	nple volume f	or indicated te	st(s)?		Yes 🗹	I	No 🗌					
7. Are samples	(except VOA	and ONG) pro	perly preserve	ed?	Yes 🗹	I	No 🗌					
8. Was preserv	ative added to	bottles?			Yes 🗌	I	No 🔽	NA 🗔				
9. VOA vials ha	ve zero heads	space?			Yes 🗌	ł	No 🗆	No VOA Vials 🗹		[[
10. Were any sa	mple containe	ers received br	oken?		Yes		No 🗹	# of preserved	oallo	V		
11. Does paperw (Note discrep		ttle labels?			Yes 🗹	i	No 🗌	bottles checked for pH: (<2/0	>12 unless noted)			
12. Are matrices	correctly iden	tified on Chair	of Custody?		Yes 🗹	1	No 🗋	Adjusted?	5			
13. Is it clear what			2		Yes 🗹	I	No 🗌	1.	P			
14. Were all hold (If no, notify o	ling times able customer for a				Yes 🖌	l	No 🗌	Checked by:				
Special Hand	lling (if app	olicable)										
15. Was client n	otified of all di	iscrepancies w	ith this order?		Yes 🗌		No 🗌	NA 🗹	-1			
Persor	n Notified:			Date	·							
By Wh	2 1			Via:	🗌 eMail 🛛	Phone	🗌 Fax	🔲 In Person				
Regard	ding: Instructions:							······································				
16. Additional re							· · · · · · · · · · · · · · · · · · ·					
17. <u>Cooler Info</u> Cooler N				Seal No	Seal Date	Sign	ed By]				
l1	4.6		Yes]				

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ENVIRONME YSIS LABOR/ environmental.com Albuquerque, NM 87109 Fax 505-345-4107	Anions (F,CI,NO ₂ ,PO ₄ ,SO ₄)	
HALL ANAI www.he kins NE 345-3975	PAH's (8310 or 8270 SIMS)	
HALL ANAI www.he Hawkins NE 505-345-3975	EDB (Method 504.1) EDB (Method 504.1)	
	(СКО / DRO / MRO)	
4901 Tel.		
	-BTEX • MTBE + TMB's (8021)	
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September 24, 2018

Austin Weyant Souder, Miller & Associates 201 S Halagueno Carlsbad, NM 88221 TEL: (575) 689-7040 FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

RE: Abe Unit 2

OrderNo.: 1809855

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 31 sample(s) on 9/14/2018 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 <u>www.hallenvironmental.com</u> 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,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental	Analysis	Laboratory,	Inc.
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Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2			ient Sample II Collection Date		V8 12/2018 7:09:00 AM	
Lab ID: 1809855-001	Matrix: SOIL		Received Date	e: 9/1	14/2018 8:55:00 AM	
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: smb
Chloride	ND	30	mg/Kg	20	9/20/2018 3:03:12 AM	40463
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/18/2018 1:10:44 PM	40397
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/18/2018 1:10:44 PM	40397
Surr: DNOP	90.1	50.6-138	%Rec	1	9/18/2018 1:10:44 PM	40397
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	9/17/2018 10:45:09 AN	40363
Surr: BFB	92.9	15-316	%Rec	1	9/17/2018 10:45:09 AN	40363
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.024	mg/Kg	1	9/17/2018 10:45:09 AN	40363
Toluene	ND	0.047	mg/Kg	1	9/17/2018 10:45:09 AN	40363
Ethylbenzene	ND	0.047	mg/Kg	1	9/17/2018 10:45:09 AN	40363
Xylenes, Total	ND	0.094	mg/Kg	1	9/17/2018 10:45:09 AN	40363
Surr: 4-Bromofluorobenzene	95.6	80-120	%Rec	1	9/17/2018 10:45:09 AN	40363

- * Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Analytical Report

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809855 Date Reported: 9/24/2018

		CI:			7.0				
CLIENT: Souder, Miller & Associates	Client Sample ID: CS7-2								
Project: Abe Unit 2	Collection Date: 9/12/2018 7:16:00 AM								
Lab ID: 1809855-002	Matrix: SOIL Received Date: 9/14/2018 8:55:00 AM								
Analyses	Result	PQL Qu	ial Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS					Analys	t: smb			
Chloride	260	30	mg/Kg	20	9/20/2018 3:15:36 AM	40463			

EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/18/2018 2:24:51 PM	40397	
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/18/2018 2:24:51 PM	40397	
Surr: DNOP	99.5	50.6-138	%Rec	1	9/18/2018 2:24:51 PM	40397	
EPA METHOD 8015D: GASOLINE RANGE					Analyst:	NSB	
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/17/2018 11:55:13 AM	40363	
Surr: BFB	93.6	15-316	%Rec	1	9/17/2018 11:55:13 AM	40363	
EPA METHOD 8021B: VOLATILES					Analyst:	NSB	
Benzene	ND	0.024	mg/Kg	1	9/17/2018 11:55:13 AM	40363	
Toluene	ND	0.048	mg/Kg	1	9/17/2018 11:55:13 AM	40363	
Ethylbenzene	ND	0.048	mg/Kg	1	9/17/2018 11:55:13 AM	40363	
Xylenes, Total	ND	0.096	mg/Kg	1	9/17/2018 11:55:13 AM	40363	
Surr: 4-Bromofluorobenzene	94.6	80-120	%Rec	1	9/17/2018 11:55:13 AM	40363	

Qualifiers:	
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- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Surr: 4-Bromofluorobenzene

Analytical Report

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates		Cl	ient Sample II	D: SV	V11	
Project: Abe Unit 2		(Collection Date	e: 9/1	12/2018 7:40:00 AM	
Lab ID: 1809855-003	Matrix: SOIL	14/2018 8:55:00 AM				
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: smb
Chloride	ND	30	mg/Kg	20	9/20/2018 3:28:01 AM	40463
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analys	t: Irm
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/18/2018 2:52:08 PM	40397
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/18/2018 2:52:08 PM	40397
Surr: DNOP	98.4	50.6-138	%Rec	1	9/18/2018 2:52:08 PM	40397
EPA METHOD 8015D: GASOLINE RANG	E				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/17/2018 1:05:26 PM	40363
Surr: BFB	91.7	15-316	%Rec	1	9/17/2018 1:05:26 PM	40363
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.024	mg/Kg	1	9/17/2018 1:05:26 PM	40363
Toluene	ND	0.048	mg/Kg	1	9/17/2018 1:05:26 PM	40363
Ethylbenzene	ND	0.048	mg/Kg	1	9/17/2018 1:05:26 PM	40363
Xylenes, Total	ND	0.096	mg/Kg	1	9/17/2018 1:05:26 PM	40363

94.2

80-120

%Rec

1

9/17/2018 1:05:26 PM

40363

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates	Client Sample ID: CS9-1						
Project: Abe Unit 2	Collection Date: 9/12/2018 7:43:00 AM						
Lab ID: 1809855-004	Matrix: SOIL		Received Date	14/2018 8:55:00 AM			
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analys	t: smb	
Chloride	ND	30	mg/Kg	20	9/20/2018 3:40:25 AM	40463	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analys	t: Irm	
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/18/2018 3:16:56 PM	40397	
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/18/2018 3:16:56 PM	40397	
Surr: DNOP	94.4	50.6-138	%Rec	1	9/18/2018 3:16:56 PM	40397	
EPA METHOD 8015D: GASOLINE RANG	E				Analys	t: NSB	
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/17/2018 1:28:54 PM	40363	
Surr: BFB	95.1	15-316	%Rec	1	9/17/2018 1:28:54 PM	40363	
EPA METHOD 8021B: VOLATILES					Analys	t: NSB	
Benzene	ND	0.025	mg/Kg	1	9/17/2018 1:28:54 PM	40363	
Toluene	ND	0.049	mg/Kg	1	9/17/2018 1:28:54 PM	40363	
Ethylbenzene	ND	0.049	mg/Kg	1	9/17/2018 1:28:54 PM	40363	
Xylenes, Total	ND	0.098	mg/Kg	1	9/17/2018 1:28:54 PM	40363	
Surr: 4-Bromofluorobenzene	96.8	80-120	%Rec	1	9/17/2018 1:28:54 PM	40363	

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2	Client Sample ID: SW9 Collection Date: 9/12/2018 7:54:00 AM					
Lab ID: 1809855-005	Matrix: SOIL		Received Date	e: 9/1	14/2018 8:55:00 AM	
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: smb
Chloride	ND	30	mg/Kg	20	9/20/2018 3:52:49 AM	40463
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analys	t: Irm
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/18/2018 4:19:07 PM	40397
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/18/2018 4:19:07 PM	40397
Surr: DNOP	93.2	50.6-138	%Rec	1	9/18/2018 4:19:07 PM	40397
EPA METHOD 8015D: GASOLINE RANGE					Analys	t: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	9/17/2018 1:52:21 PM	40363
Surr: BFB	95.3	15-316	%Rec	1	9/17/2018 1:52:21 PM	40363
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.025	mg/Kg	1	9/17/2018 1:52:21 PM	40363
Toluene	ND	0.050	mg/Kg	1	9/17/2018 1:52:21 PM	40363
Ethylbenzene	ND	0.050	mg/Kg	1	9/17/2018 1:52:21 PM	40363
Xylenes, Total	ND	0.099	mg/Kg	1	9/17/2018 1:52:21 PM	40363
Surr: 4-Bromofluorobenzene	97.7	80-120	%Rec	1	9/17/2018 1:52:21 PM	40363

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 5 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates	Client Sample ID: SW6						
Project: Abe Unit 2	Collection Date: 9/12/2018 7:59:00 AM						
Lab ID: 1809855-006	Matrix: SOIL		Received Date	e: 9/1	14/2018 8:55:00 AM		
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analys	t: smb	
Chloride	100	30	mg/Kg	20	9/20/2018 4:05:14 AM	40463	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analys	t: Irm	
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/18/2018 4:43:41 PM	40397	
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/18/2018 4:43:41 PM	40397	
Surr: DNOP	120	50.6-138	%Rec	1	9/18/2018 4:43:41 PM	40397	
EPA METHOD 8015D: GASOLINE RANG	Ξ				Analys	t: NSB	
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	9/17/2018 2:15:52 PM	40363	
Surr: BFB	93.8	15-316	%Rec	1	9/17/2018 2:15:52 PM	40363	
EPA METHOD 8021B: VOLATILES					Analys	t: NSB	
Benzene	ND	0.025	mg/Kg	1	9/17/2018 2:15:52 PM	40363	
Toluene	ND	0.050	mg/Kg	1	9/17/2018 2:15:52 PM	40363	
Ethylbenzene	ND	0.050	mg/Kg	1	9/17/2018 2:15:52 PM	40363	
Xylenes, Total	ND	0.099	mg/Kg	1	9/17/2018 2:15:52 PM	40363	
Surr: 4-Bromofluorobenzene	96.8	80-120	%Rec	1	9/17/2018 2:15:52 PM	40363	

- * Value exceeds Maximum Contaminant Level. D
- Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 6 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates	Client Sample ID: SW7						
Project: Abe Unit 2	Collection Date: 9/12/2018 8:05:00 AM						
Lab ID: 1809855-007	Matrix: SOIL Received Date: 9/14/2018 8:55:00						
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analys	t: smb	
Chloride	180	30	mg/Kg	20	9/20/2018 4:17:39 AM	40463	
EPA METHOD 8015M/D: DIESEL RANGI	E ORGANICS				Analys	t: Irm	
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	9/18/2018 5:08:25 PM	40397	
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/18/2018 5:08:25 PM	40397	
Surr: DNOP	102	50.6-138	%Rec	1	9/18/2018 5:08:25 PM	40397	
EPA METHOD 8015D: GASOLINE RANG	E				Analys	t: NSB	
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/17/2018 2:39:24 PM	40363	
Surr: BFB	96.4	15-316	%Rec	1	9/17/2018 2:39:24 PM	40363	
EPA METHOD 8021B: VOLATILES					Analys	t: NSB	
Benzene	ND	0.024	mg/Kg	1	9/17/2018 2:39:24 PM	40363	
Toluene	ND	0.048	mg/Kg	1	9/17/2018 2:39:24 PM	40363	
Ethylbenzene	ND	0.048	mg/Kg	1	9/17/2018 2:39:24 PM	40363	
Xylenes, Total	ND	0.096	mg/Kg	1	9/17/2018 2:39:24 PM	40363	
Surr: 4-Bromofluorobenzene	99.9	80-120	%Rec	1	9/17/2018 2:39:24 PM	40363	

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 7 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Surr: 4-Bromofluorobenzene

40363

Analytical Report

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2	Client Sample ID: SW12 Collection Date: 9/12/2018 8:31:00 AM						
Project: Abe Unit 2 Lab ID: 1809855-008	Matrix: SOIL	,					
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analyst	: smb	
Chloride	73	30	mg/Kg	20	9/20/2018 4:54:52 AM	40463	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm	
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/18/2018 5:33:03 PM	40397	
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/18/2018 5:33:03 PM	40397	
Surr: DNOP	94.5	50.6-138	%Rec	1	9/18/2018 5:33:03 PM	40397	
EPA METHOD 8015D: GASOLINE RANGE					Analyst	: NSB	
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	9/17/2018 3:02:55 PM	40363	
Surr: BFB	96.4	15-316	%Rec	1	9/17/2018 3:02:55 PM	40363	
EPA METHOD 8021B: VOLATILES					Analyst	: NSB	
Benzene	ND	0.024	mg/Kg	1	9/17/2018 3:02:55 PM	40363	
Toluene	ND	0.047	mg/Kg	1	9/17/2018 3:02:55 PM	40363	
Ethylbenzene	ND	0.047	mg/Kg	1	9/17/2018 3:02:55 PM	40363	
Xylenes, Total	ND	0.095	mg/Kg	1	9/17/2018 3:02:55 PM	40363	

97.0

80-120

%Rec

1

9/17/2018 3:02:55 PM

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

- Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 8 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

*

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates	-							
Project: Abe Unit 2	Collection Date: 9/12/2018 8:35:00 AM							
Lab ID: 1809855-009	Matrix: SOIL Received Date: 9/14/2018 8:							
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS					Analys	: MRA		
Chloride	110	30	mg/Kg	20	9/19/2018 8:40:43 PM	40464		
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analys	: Irm		
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	9/18/2018 5:57:42 PM	40397		
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	9/18/2018 5:57:42 PM	40397		
Surr: DNOP	106	50.6-138	%Rec	1	9/18/2018 5:57:42 PM	40397		
EPA METHOD 8015D: GASOLINE RANGE	E				Analys	: NSB		
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/17/2018 3:26:24 PM	40363		
Surr: BFB	95.8	15-316	%Rec	1	9/17/2018 3:26:24 PM	40363		
EPA METHOD 8021B: VOLATILES					Analys	: NSB		
Benzene	ND	0.024	mg/Kg	1	9/17/2018 3:26:24 PM	40363		
Toluene	ND	0.048	mg/Kg	1	9/17/2018 3:26:24 PM	40363		
Ethylbenzene	ND	0.048	mg/Kg	1	9/17/2018 3:26:24 PM	40363		
Xylenes, Total	ND	0.096	mg/Kg	1	9/17/2018 3:26:24 PM	40363		
Surr: 4-Bromofluorobenzene	97.8	80-120	%Rec	1	9/17/2018 3:26:24 PM	40363		

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

- * Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 9 of 38 J
- Р Sample pH Not In Range

- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2	Client Sample ID: CS8-1Collection Date: 9/12/2018 8:38:00 AMMatrix: SOILReceived Date: 9/14/2018 8:55:00 AM					
Lab ID: 1809855-010						
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analysi	MRA
Chloride	ND	30	mg/Kg	20	9/19/2018 9:17:57 PM	40464
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/18/2018 6:22:21 PM	40397
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/18/2018 6:22:21 PM	40397
Surr: DNOP	83.8	50.6-138	%Rec	1	9/18/2018 6:22:21 PM	40397
EPA METHOD 8015D: GASOLINE RANGE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/17/2018 3:49:57 PM	40363
Surr: BFB	95.3	15-316	%Rec	1	9/17/2018 3:49:57 PM	40363
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.024	mg/Kg	1	9/17/2018 3:49:57 PM	40363
Toluene	ND	0.049	mg/Kg	1	9/17/2018 3:49:57 PM	40363
Ethylbenzene	ND	0.049	mg/Kg	1	9/17/2018 3:49:57 PM	40363
Xylenes, Total	ND	0.098	mg/Kg	1	9/17/2018 3:49:57 PM	40363
Surr: 4-Bromofluorobenzene	98.5	80-120	%Rec	1	9/17/2018 3:49:57 PM	40363

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 10 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Project: Abe Unit 2

CLIENT: Souder, Miller & Associates

Surr: 4-Bromofluorobenzene

40363

Analytical Report

Date Reported: 9/24/2018

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809855

Client Sample ID: CS3-3.5
Collection Date: 9/12/2018 9:25:00 AM

rigeet. noe ent 2							
Lab ID: 1809855-011	Matrix: SOIL	4/2018 8:55:00 AM	5:00 AM				
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analys	t: MRA	
Chloride	120	30	mg/Kg	20	9/19/2018 9:30:22 PM	40464	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analys	t: Irm	
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/18/2018 6:47:06 PM	40397	
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/18/2018 6:47:06 PM	40397	
Surr: DNOP	82.3	50.6-138	%Rec	1	9/18/2018 6:47:06 PM	40397	
EPA METHOD 8015D: GASOLINE RANGE	E				Analys	t: NSB	
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/17/2018 8:08:18 PM	40363	
Surr: BFB	91.6	15-316	%Rec	1	9/17/2018 8:08:18 PM	40363	
EPA METHOD 8021B: VOLATILES					Analys	t: NSB	
Benzene	ND	0.025	mg/Kg	1	9/17/2018 8:08:18 PM	40363	
Toluene	ND	0.049	mg/Kg	1	9/17/2018 8:08:18 PM	40363	
Ethylbenzene	ND	0.049	mg/Kg	1	9/17/2018 8:08:18 PM	40363	
Xylenes, Total	ND	0.098	mg/Kg	1	9/17/2018 8:08:18 PM	40363	

95.0

80-120

%Rec

1

9/17/2018 8:08:18 PM

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 11 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Anal	ysis Laboratory, Inc.
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Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2	Client Sample ID: SW19 Collection Date: 9/12/2018 9:30:00 AM					
Project: Abe Unit 2 Lab ID: 1809855-012 Analyses	Matrix: SOIL	,				
	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	9/19/2018 9:42:46 PM	40464
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	9/18/2018 7:11:43 PM	40397
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/18/2018 7:11:43 PM	40397
Surr: DNOP	80.2	50.6-138	%Rec	1	9/18/2018 7:11:43 PM	40397
EPA METHOD 8015D: GASOLINE RANGE	i i i i i i i i i i i i i i i i i i i				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	9/17/2018 8:31:36 PM	40363
Surr: BFB	90.4	15-316	%Rec	1	9/17/2018 8:31:36 PM	40363
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.023	mg/Kg	1	9/17/2018 8:31:36 PM	40363
Toluene	ND	0.046	mg/Kg	1	9/17/2018 8:31:36 PM	40363
Ethylbenzene	ND	0.046	mg/Kg	1	9/17/2018 8:31:36 PM	40363
Xylenes, Total	ND	0.093	mg/Kg	1	9/17/2018 8:31:36 PM	40363
Surr: 4-Bromofluorobenzene	94.4	80-120	%Rec	1	9/17/2018 8:31:36 PM	40363

- * Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 12 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Anal	ysis Laboratory, Inc.
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Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2	Client Sample ID: SW10 Collection Date: 9/12/2018 10:23:00 AM					
Lab ID: 1809855-013	Matrix: SOIL Received Date: 9/14/2018 8:55:00					
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: MRA
Chloride	35	30	mg/Kg	20	9/19/2018 10:19:59 PM	40464
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/18/2018 7:36:21 PM	40397
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/18/2018 7:36:21 PM	40397
Surr: DNOP	90.3	50.6-138	%Rec	1	9/18/2018 7:36:21 PM	40397
EPA METHOD 8015D: GASOLINE RANGE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/17/2018 8:54:50 PM	40363
Surr: BFB	91.2	15-316	%Rec	1	9/17/2018 8:54:50 PM	40363
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.025	mg/Kg	1	9/17/2018 8:54:50 PM	40363
Toluene	ND	0.049	mg/Kg	1	9/17/2018 8:54:50 PM	40363
Ethylbenzene	ND	0.049	mg/Kg	1	9/17/2018 8:54:50 PM	40363
Xylenes, Total	ND	0.099	mg/Kg	1	9/17/2018 8:54:50 PM	40363
Surr: 4-Bromofluorobenzene	93.5	80-120	%Rec	1	9/17/2018 8:54:50 PM	40363

- * Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 13 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Anal	ysis Laboratory, Inc.
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Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2	Client Sample ID: SW22 Collection Date: 9/12/2018 9:54:00 AM					
Lab ID: 1809855-014	Matrix: SOILReceived Date: 9/12/2018					
Analyses	Result	PQL Qual Units		DF Date Analyzed		Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	240	30	mg/Kg	20	9/19/2018 10:32:23 PM	40464
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	Irm
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	9/19/2018 11:16:46 AM	40397
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/19/2018 11:16:46 AM	40397
Surr: DNOP	97.1	50.6-138	%Rec	1	9/19/2018 11:16:46 AM	40397
EPA METHOD 8015D: GASOLINE RANGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/17/2018 9:18:15 PM	40363
Surr: BFB	91.5	15-316	%Rec	1	9/17/2018 9:18:15 PM	40363
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.024	mg/Kg	1	9/17/2018 9:18:15 PM	40363
Toluene	ND	0.048	mg/Kg	1	9/17/2018 9:18:15 PM	40363
Ethylbenzene	ND	0.048	mg/Kg	1	9/17/2018 9:18:15 PM	40363
Xylenes, Total	ND	0.097	mg/Kg	1	9/17/2018 9:18:15 PM	40363
Surr: 4-Bromofluorobenzene	94.5	80-120	%Rec	1	9/17/2018 9:18:15 PM	40363

- * Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 14 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2	Client Sample ID: SW15					
Project: Abe Unit 2 Lab ID: 1809855-015	Matrix: SOIL	Collection Date: 9/12/2018 10:40:00 AN Received Date: 9/14/2018 8:55:00 AM				
Analyses	Result	PQL Qual Units		DF Date Analyzed		Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	9/19/2018 10:44:47 PM	40464
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/18/2018 8:25:17 PM	40397
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/18/2018 8:25:17 PM	40397
Surr: DNOP	87.3	50.6-138	%Rec	1	9/18/2018 8:25:17 PM	40397
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/17/2018 9:41:30 PM	40363
Surr: BFB	90.9	15-316	%Rec	1	9/17/2018 9:41:30 PM	40363
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.024	mg/Kg	1	9/17/2018 9:41:30 PM	40363
Toluene	ND	0.048	mg/Kg	1	9/17/2018 9:41:30 PM	40363
Ethylbenzene	ND	0.048	mg/Kg	1	9/17/2018 9:41:30 PM	40363
Xylenes, Total	ND	0.097	mg/Kg	1	9/17/2018 9:41:30 PM	40363
Surr: 4-Bromofluorobenzene	94.4	80-120	%Rec	1	9/17/2018 9:41:30 PM	40363

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

- Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 15 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2	Client Sample ID: SW5 Collection Date: 9/12/2018 10:49:00 AM					
Lab ID: 1809855-016	Matrix: SOIL Received Date: 9/14/2018 8:55:00 AM					
Analyses	Result PQL Qual Units DF Date Analyzed				Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	9/19/2018 10:57:12 PM	40464
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/18/2018 8:49:43 PM	40397
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/18/2018 8:49:43 PM	40397
Surr: DNOP	91.8	50.6-138	%Rec	1	9/18/2018 8:49:43 PM	40397
EPA METHOD 8015D: GASOLINE RANGE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/17/2018 10:04:41 PM	40363
Surr: BFB	90.6	15-316	%Rec	1	9/17/2018 10:04:41 PM	40363
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.024	mg/Kg	1	9/17/2018 10:04:41 PM	40363
Toluene	ND	0.048	mg/Kg	1	9/17/2018 10:04:41 PM	40363
Ethylbenzene	ND	0.048	mg/Kg	1	9/17/2018 10:04:41 PM	40363
Xylenes, Total	ND	0.095	mg/Kg	1	9/17/2018 10:04:41 PM	40363
Surr: 4-Bromofluorobenzene	93.6	80-120	%Rec	1	9/17/2018 10:04:41 PM	40363

- * 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 Quanitative 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 Page 16 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809855 Date Reported: 9/24/2018

Analyses	S	Result	PQL Qual Units	DF Date Analyzed	Batch			
Lab ID:	1809855-017	Matrix: SOIL	Received Dat	e: 9/14/2018 8:55:00 AM				
Project:	Abe Unit 2		Collection Dat	e: 9/12/2018 10:52:00 AN	1			
CLIENT	: Souder, Miller & Associates	Client Sample ID: CS6-2.5						

EPA METHOD 300.0: ANIONS					Analyst:	MRA
Chloride	100	30	mg/Kg	20	9/19/2018 11:09:36 PM	40464
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst:	Irm
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/18/2018 9:14:11 PM	40397
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/18/2018 9:14:11 PM	40397
Surr: DNOP	86.5	50.6-138	%Rec	1	9/18/2018 9:14:11 PM	40397
EPA METHOD 8015D: GASOLINE RANGE					Analyst:	NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	9/17/2018 10:27:57 PM	40363
Surr: BFB	91.7	15-316	%Rec	1	9/17/2018 10:27:57 PM	40363
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	0.023	mg/Kg	1	9/17/2018 10:27:57 PM	40363
Toluene	ND	0.046	mg/Kg	1	9/17/2018 10:27:57 PM	40363
Ethylbenzene	ND	0.046	mg/Kg	1	9/17/2018 10:27:57 PM	40363
Xylenes, Total	ND	0.092	mg/Kg	1	9/17/2018 10:27:57 PM	40363
Surr: 4-Bromofluorobenzene	94.8	80-120	%Rec	1	9/17/2018 10:27:57 PM	40363

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 17 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Project:

Lab ID:

CLIENT: Souder, Miller & Associates

Abe Unit 2

1809855-018

Analytical Report

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809855 Date Reported: 9/24/2018

Client Sample ID: CS2-3.5 Collection Date: 9/12/2018 11:10:00 AM Received Date: 9/14/2018 8:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	MRA
Chloride	ND	30		mg/Kg	20	9/19/2018 11:22:01 PM	40464
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS					Analyst	: Irm
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/18/2018 9:38:37 PM	40397
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/18/2018 9:38:37 PM	40397
Surr: DNOP	80.7	50.6-138		%Rec	1	9/18/2018 9:38:37 PM	40397
EPA METHOD 8015D: GASOLINE RANGE						Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/17/2018 10:51:13 PM	40363
Surr: BFB	93.4	15-316		%Rec	1	9/17/2018 10:51:13 PM	40363
EPA METHOD 8021B: VOLATILES						Analyst	: NSB
Benzene	ND	0.025		mg/Kg	1	9/17/2018 10:51:13 PM	40363
Toluene	ND	0.049		mg/Kg	1	9/17/2018 10:51:13 PM	40363
Ethylbenzene	ND	0.049		mg/Kg	1	9/17/2018 10:51:13 PM	40363
Xylenes, Total	ND	0.098		mg/Kg	1	9/17/2018 10:51:13 PM	40363
Surr: 4-Bromofluorobenzene	95.8	80-120		%Rec	1	9/17/2018 10:51:13 PM	40363

Matrix: SOIL

Qualifiers:	
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- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 18 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2	Client Sample ID: SW17 Collection Date: 9/12/2018 11:22:00 AM						
Lab ID: 1809855-019	Matrix: SOIL	Received Date: 9/14/2018 8:55:00 AM					
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analyst:	MRA	
Chloride	33	30	mg/Kg	20	9/19/2018 11:34:26 PM	40464	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst:	Irm	
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/18/2018 10:03:07 PM	40397	
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/18/2018 10:03:07 PM	40397	
Surr: DNOP	95.4	50.6-138	%Rec	1	9/18/2018 10:03:07 PM	40397	
EPA METHOD 8015D: GASOLINE RANG	E				Analyst:	NSB	
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/17/2018 11:14:31 PM	40363	
Surr: BFB	87.5	15-316	%Rec	1	9/17/2018 11:14:31 PM	40363	
EPA METHOD 8021B: VOLATILES					Analyst:	NSB	
Benzene	ND	0.025	mg/Kg	1	9/17/2018 11:14:31 PM	40363	
Toluene	ND	0.049	mg/Kg	1	9/17/2018 11:14:31 PM	40363	
Ethylbenzene	ND	0.049	mg/Kg	1	9/17/2018 11:14:31 PM	40363	
Xylenes, Total	ND	0.098	mg/Kg	1	9/17/2018 11:14:31 PM	40363	
Surr: 4-Bromofluorobenzene	91.6	80-120	%Rec	1	9/17/2018 11:14:31 PM	40363	

- * Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 19 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Anal	ysis Laboratory, Inc.
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Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2	Client Sample ID: SW18 Collection Date: 9/12/2018 11:48:00 AM						
Lab ID: 1809855-020	Matrix: SOIL	Received Date: 9/14/2018 8:55:00 AM					
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analyst	MRA	
Chloride	ND	30	mg/Kg	20	9/19/2018 11:46:50 PM	40464	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	Irm	
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/18/2018 11:16:30 PM	40397	
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/18/2018 11:16:30 PM	40397	
Surr: DNOP	99.4	50.6-138	%Rec	1	9/18/2018 11:16:30 PM	40397	
EPA METHOD 8015D: GASOLINE RANGE	i i i i i i i i i i i i i i i i i i i				Analyst	NSB	
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	9/17/2018 11:37:51 PM	40363	
Surr: BFB	89.0	15-316	%Rec	1	9/17/2018 11:37:51 PM	40363	
EPA METHOD 8021B: VOLATILES					Analyst	NSB	
Benzene	ND	0.023	mg/Kg	1	9/17/2018 11:37:51 PM	40363	
Toluene	ND	0.046	mg/Kg	1	9/17/2018 11:37:51 PM	40363	
Ethylbenzene	ND	0.046	mg/Kg	1	9/17/2018 11:37:51 PM	40363	
Xylenes, Total	ND	0.093	mg/Kg	1	9/17/2018 11:37:51 PM	40363	
Surr: 4-Bromofluorobenzene	91.4	80-120	%Rec	1	9/17/2018 11:37:51 PM	40363	

- * Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н
- Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 20 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2 Lab ID: 1809855-021	Client Sample ID: SW4 Collection Date: 9/12/2018 1:22:00 PM Matrix: SOIL Received Date: 9/14/2018 8:55:00 AM						
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analyst	MRA	
Chloride	ND	30	mg/Kg	20	9/19/2018 11:59:15 PM	40464	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm	
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/18/2018 2:32:04 PM	40400	
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/18/2018 2:32:04 PM	40400	
Surr: DNOP	106	50.6-138	%Rec	1	9/18/2018 2:32:04 PM	40400	
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst	: NSB	
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	9/18/2018 10:43:34 AM	40379	
Surr: BFB	94.0	15-316	%Rec	1	9/18/2018 10:43:34 AM	40379	
EPA METHOD 8021B: VOLATILES					Analyst	: NSB	
Benzene	ND	0.023	mg/Kg	1	9/18/2018 10:43:34 AM	40379	
Toluene	ND	0.047	mg/Kg	1	9/18/2018 10:43:34 AM	40379	
Ethylbenzene	ND	0.047	mg/Kg	1	9/18/2018 10:43:34 AM	40379	
Xylenes, Total	ND	0.094	mg/Kg	1	9/18/2018 10:43:34 AM	40379	
Surr: 4-Bromofluorobenzene	97.5	80-120	%Rec	1	9/18/2018 10:43:34 AM	40379	

- * Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 21 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.	

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2	Client Sample ID: SW2 Collection Date: 9/12/2018 1:37:00 PM					
Lab ID: 1809855-022	Matrix: SOIL Received Date: 9/14/2018 8:55:00 AM					
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	9/20/2018 12:11:40 AM	40464
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	9/18/2018 4:00:35 PM	40400
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	9/18/2018 4:00:35 PM	40400
Surr: DNOP	95.9	50.6-138	%Rec	1	9/18/2018 4:00:35 PM	40400
EPA METHOD 8015D: GASOLINE RANGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/18/2018 11:53:47 AM	40379
Surr: BFB	93.5	15-316	%Rec	1	9/18/2018 11:53:47 AM	40379
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.024	mg/Kg	1	9/18/2018 11:53:47 AM	40379
Toluene	ND	0.049	mg/Kg	1	9/18/2018 11:53:47 AM	40379
Ethylbenzene	ND	0.049	mg/Kg	1	9/18/2018 11:53:47 AM	40379
Xylenes, Total	ND	0.097	mg/Kg	1	9/18/2018 11:53:47 AM	40379
Surr: 4-Bromofluorobenzene	97.3	80-120	%Rec	1	9/18/2018 11:53:47 AM	40379

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

- Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 22 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental	Analysis	Laboratory.	Inc.

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2	Client Sample ID: SW1 Collection Date: 9/12/2018 1:45:00 PM					
Lab ID: 1809855-023	Matrix: SOIL	14/2018 8:55:00 AM				
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	130	30	mg/Kg	20	9/20/2018 12:48:55 AM	40464
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/18/2018 4:22:33 PM	40400
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/18/2018 4:22:33 PM	40400
Surr: DNOP	87.8	50.6-138	%Rec	1	9/18/2018 4:22:33 PM	40400
EPA METHOD 8015D: GASOLINE RANGE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	9/18/2018 1:04:17 PM	40379
Surr: BFB	95.5	15-316	%Rec	1	9/18/2018 1:04:17 PM	40379
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.025	mg/Kg	1	9/18/2018 1:04:17 PM	40379
Toluene	ND	0.049	mg/Kg	1	9/18/2018 1:04:17 PM	40379
Ethylbenzene	ND	0.049	mg/Kg	1	9/18/2018 1:04:17 PM	40379
Xylenes, Total	ND	0.098	mg/Kg	1	9/18/2018 1:04:17 PM	40379
Surr: 4-Bromofluorobenzene	98.8	80-120	%Rec	1	9/18/2018 1:04:17 PM	40379

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

- Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 23 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & AssociatesProject: Abe Unit 2Lab ID: 1809855-024	Client Sample ID: CS1 Collection Date: 9/12/2018 1:58:00 PM Matrix: SOIL Received Date: 9/14/2018 8:55:00 AM					
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: MRA
Chloride	ND	30	mg/Kg	20	9/20/2018 1:01:19 AM	40464
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	t: Irm
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/18/2018 4:44:45 PM	40400
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/18/2018 4:44:45 PM	40400
Surr: DNOP	60.7	50.6-138	%Rec	1	9/18/2018 4:44:45 PM	40400
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	9/18/2018 1:27:49 PM	40379
Surr: BFB	96.8	15-316	%Rec	1	9/18/2018 1:27:49 PM	40379
EPA METHOD 8021B: VOLATILES					Analyst	II NSB
Benzene	ND	0.024	mg/Kg	1	9/18/2018 1:27:49 PM	40379
Toluene	ND	0.047	mg/Kg	1	9/18/2018 1:27:49 PM	40379
Ethylbenzene	ND	0.047	mg/Kg	1	9/18/2018 1:27:49 PM	40379
Xylenes, Total	ND	0.094	mg/Kg	1	9/18/2018 1:27:49 PM	40379
Surr: 4-Bromofluorobenzene	99.2	80-120	%Rec	1	9/18/2018 1:27:49 PM	40379

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

- Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 24 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates	Client Sample ID: CS5					
Project: Abe Unit 2 Lab ID: 1809855-025	Collection Date: 9/12/2018 2:13:00 PM Matrix: SOIL Received Date: 9/14/2018 8:55:00 AM					
Lab ID: 1809853-025	Matrix: SOIL		Received Date	: 9/1	14/2018 8.33.00 AW	
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	240	30	mg/Kg	20	9/20/2018 1:13:44 AM	40464
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	9/18/2018 5:06:49 PM	40400
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/18/2018 5:06:49 PM	40400
Surr: DNOP	51.3	50.6-138	%Rec	1	9/18/2018 5:06:49 PM	40400
EPA METHOD 8015D: GASOLINE RANGE	Ξ				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/18/2018 1:51:21 PM	40379
Surr: BFB	98.2	15-316	%Rec	1	9/18/2018 1:51:21 PM	40379
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.024	mg/Kg	1	9/18/2018 1:51:21 PM	40379
Toluene	ND	0.048	mg/Kg	1	9/18/2018 1:51:21 PM	40379
Ethylbenzene	ND	0.048	mg/Kg	1	9/18/2018 1:51:21 PM	40379
Xylenes, Total	ND	0.096	mg/Kg	1	9/18/2018 1:51:21 PM	40379
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	9/18/2018 1:51:21 PM	40379

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 25 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Surr: 4-Bromofluorobenzene

40379

Analytical Report

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2	Client Sample ID: SW21 Collection Date: 9/12/2018 2:39:00 PM						
Lab ID: 1809855-026	Matrix: SOIL	Received Date: 9/14/2018 8:55:00 AM					
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analyst	MRA	
Chloride	58	30	mg/Kg	20	9/20/2018 1:26:08 AM	40464	
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS				Analyst	: Irm	
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/18/2018 5:28:59 PM	40400	
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/18/2018 5:28:59 PM	40400	
Surr: DNOP	58.3	50.6-138	%Rec	1	9/18/2018 5:28:59 PM	40400	
EPA METHOD 8015D: GASOLINE RANG	ЭЕ				Analyst	: NSB	
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	9/18/2018 2:14:53 PM	40379	
Surr: BFB	97.1	15-316	%Rec	1	9/18/2018 2:14:53 PM	40379	
EPA METHOD 8021B: VOLATILES					Analyst	: NSB	
Benzene	ND	0.025	mg/Kg	1	9/18/2018 2:14:53 PM	40379	
Toluene	ND	0.050	mg/Kg	1	9/18/2018 2:14:53 PM	40379	
Ethylbenzene	ND	0.050	mg/Kg	1	9/18/2018 2:14:53 PM	40379	
Xylenes, Total	ND	0.099	mg/Kg	1	9/18/2018 2:14:53 PM	40379	

100

80-120

%Rec

1

9/18/2018 2:14:53 PM

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

- Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 26 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Surr: 4-Bromofluorobenzene

Analytical Report

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2	Client Sample ID: SW20 Collection Date: 0/12/2018 2:44:00 PM						
Project: Abe Unit 2 Lab ID: 1809855-027	Collection Date: 9/12/2018 2:44:00 P Matrix: SOIL Received Date: 9/14/2018 8:55:00 A						
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analyst	MRA	
Chloride	ND	30	mg/Kg	20	9/20/2018 1:38:33 AM	40464	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm	
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	9/18/2018 5:50:56 PM	40400	
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	9/18/2018 5:50:56 PM	40400	
Surr: DNOP	59.6	50.6-138	%Rec	1	9/18/2018 5:50:56 PM	40400	
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	: NSB	
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/18/2018 2:38:28 PM	40379	
Surr: BFB	96.4	15-316	%Rec	1	9/18/2018 2:38:28 PM	40379	
EPA METHOD 8021B: VOLATILES					Analyst	: NSB	
Benzene	ND	0.024	mg/Kg	1	9/18/2018 2:38:28 PM	40379	
Toluene	ND	0.048	mg/Kg	1	9/18/2018 2:38:28 PM	40379	
Ethylbenzene	ND	0.048	mg/Kg	1	9/18/2018 2:38:28 PM	40379	
Xylenes, Total	ND	0.095	mg/Kg	1	9/18/2018 2:38:28 PM	40379	

98.9

80-120

%Rec

1

9/18/2018 2:38:28 PM

40379

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 27 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2	Client Sample ID: SW3 Collection Date: 9/12/2018 2:50:00 PM						
Lab ID: 1809855-028	Matrix: SOIL	Received Date: 9/14/2018 8:55:00 AM					
Analyses	Result	PQL Qual Units		DF Date Analyzed		Batch	
EPA METHOD 300.0: ANIONS					Analyst	MRA	
Chloride	480	30	mg/Kg	20	9/20/2018 1:50:57 AM	40464	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm	
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	9/18/2018 6:13:01 PM	40400	
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/18/2018 6:13:01 PM	40400	
Surr: DNOP	56.4	50.6-138	%Rec	1	9/18/2018 6:13:01 PM	40400	
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst	: NSB	
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	9/18/2018 3:02:00 PM	40379	
Surr: BFB	96.6	15-316	%Rec	1	9/18/2018 3:02:00 PM	40379	
EPA METHOD 8021B: VOLATILES					Analyst	: NSB	
Benzene	ND	0.024	mg/Kg	1	9/18/2018 3:02:00 PM	40379	
Toluene	ND	0.047	mg/Kg	1	9/18/2018 3:02:00 PM	40379	
Ethylbenzene	ND	0.047	mg/Kg	1	9/18/2018 3:02:00 PM	40379	
Xylenes, Total	ND	0.094	mg/Kg	1	9/18/2018 3:02:00 PM	40379	
Surr: 4-Bromofluorobenzene	99.1	80-120	%Rec	1	9/18/2018 3:02:00 PM	40379	

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

- Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 28 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Anal	ysis Laboratory, Inc.
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Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2	Client Sample ID: SW16 Collection Date: 9/12/2018 3:00:00 PM						
Project: Abe Unit 2 Lab ID: 1809855-029	Collection Date: 9/12/2018Matrix: SOILReceived Date: 9/14/2018						
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analys	t: MRA	
Chloride	ND	30	mg/Kg	20	9/20/2018 11:16:39 AM	1 40474	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analys	t: Irm	
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/18/2018 6:35:02 PM	40400	
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/18/2018 6:35:02 PM	40400	
Surr: DNOP	62.5	50.6-138	%Rec	1	9/18/2018 6:35:02 PM	40400	
EPA METHOD 8015D: GASOLINE RANG	E				Analys	t: NSB	
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	9/18/2018 3:25:35 PM	40379	
Surr: BFB	96.9	15-316	%Rec	1	9/18/2018 3:25:35 PM	40379	
EPA METHOD 8021B: VOLATILES					Analys	t: NSB	
Benzene	ND	0.023	mg/Kg	1	9/18/2018 3:25:35 PM	40379	
Toluene	ND	0.047	mg/Kg	1	9/18/2018 3:25:35 PM	40379	
Ethylbenzene	ND	0.047	mg/Kg	1	9/18/2018 3:25:35 PM	40379	
Xylenes, Total	ND	0.093	mg/Kg	1	9/18/2018 3:25:35 PM	40379	
Surr: 4-Bromofluorobenzene	99.4	80-120	%Rec	1	9/18/2018 3:25:35 PM	40379	

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

- Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 29 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Surr: 4-Bromofluorobenzene

40379

Analytical Report

Lab Order 1809855

Date Reported: 9/24/2018

CI IENT.	Sandan Millan & Associates		CL	ant Comula II). CV	N.E.		
	Souder, Miller & Associates	Client Sample ID: SW5						
Project:	Abe Unit 2	Collection Date: 9/12/2018 3:10:00 PM						
Lab ID:	1809855-030	Matrix: SOIL	Received Date: 9/14/2018 8:55:00 AM					
Analyses	3	Result	PQL	Qual Units	DF	Date Analyzed	Batch	
EPA ME	THOD 300.0: ANIONS					Analyst	MRA	
Chloride		ND	310	mg/Kg	20	9/20/2018 11:53:54 AM	40474	
EPA ME	THOD 8015M/D: DIESEL RANG	E ORGANICS				Analyst	: Irm	
Diesel R	ange Organics (DRO)	ND	9.7	mg/Kg	1	9/18/2018 6:57:18 PM	40400	
Motor O	il Range Organics (MRO)	ND	48	mg/Kg	1	9/18/2018 6:57:18 PM	40400	
Surr:	DNOP	67.7	50.6-138	%Rec	1	9/18/2018 6:57:18 PM	40400	
EPA ME	THOD 8015D: GASOLINE RANG	E				Analyst	: NSB	
Gasoline	e Range Organics (GRO)	ND	4.7	mg/Kg	1	9/18/2018 3:49:11 PM	40379	
Surr:	BFB	96.2	15-316	%Rec	1	9/18/2018 3:49:11 PM	40379	
EPA ME	THOD 8021B: VOLATILES					Analyst	: NSB	
Benzene	9	ND	0.024	mg/Kg	1	9/18/2018 3:49:11 PM	40379	
Toluene		ND	0.047	mg/Kg	1	9/18/2018 3:49:11 PM	40379	
Ethylber	izene	ND	0.047	mg/Kg	1	9/18/2018 3:49:11 PM	40379	
Xylenes,	, Total	ND	0.094	mg/Kg	1	9/18/2018 3:49:11 PM	40379	

98.5

80-120

%Rec

1

9/18/2018 3:49:11 PM

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

- Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 30 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Lab Order 1809855

Date Reported: 9/24/2018

CLIENT: Souder, Miller & Associates Project: Abe Unit 2			ient Sample II Collection Date		V14 2/2018 3:25:00 PM	
Lab ID: 1809855-031	Matrix: SOIL				14/2018 8:55:00 AM	
Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	9/20/2018 12:06:18 PM	40474
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: Irm
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/18/2018 7:19:15 PM	40400
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/18/2018 7:19:15 PM	40400
Surr: DNOP	58.0	50.6-138	%Rec	1	9/18/2018 7:19:15 PM	40400
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	9/18/2018 7:21:12 PM	40379
Surr: BFB	93.5	15-316	%Rec	1	9/18/2018 7:21:12 PM	40379
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.023	mg/Kg	1	9/18/2018 7:21:12 PM	40379
Toluene	ND	0.047	mg/Kg	1	9/18/2018 7:21:12 PM	40379
Ethylbenzene	ND	0.047	mg/Kg	1	9/18/2018 7:21:12 PM	40379
Xylenes, Total	ND	0.094	mg/Kg	1	9/18/2018 7:21:12 PM	40379
Surr: 4-Bromofluorobenzene	97.3	80-120	%Rec	1	9/18/2018 7:21:12 PM	40379

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

- Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 31 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Client: Project:	Souder, N Abe Unit	Ailler & Associates 2
Sample ID	MB-40463	SampType: mblk TestCode: EPA Method 300.0: Anions
Client ID:	PBS	Batch ID: 40463 RunNo: 54284
Prep Date:	9/19/2018	Analysis Date: 9/19/2018 SeqNo: 1796243 Units: mg/Kg
Analyte Chloride		Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual ND 1.5
Sample ID	LCS-40463	SampType: Ics TestCode: EPA Method 300.0: Anions
Client ID:	LCSS	Batch ID: 40463 RunNo: 54284
Prep Date:	9/19/2018	Analysis Date: 9/19/2018 SeqNo: 1796244 Units: mg/Kg
Analyte		Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride		14 1.5 15.00 0 94.6 90 110
Sample ID	MB-40464	SampType: mblk TestCode: EPA Method 300.0: Anions
Client ID:	PBS	Batch ID: 40464 RunNo: 54277
Prep Date:	9/19/2018	Analysis Date: 9/19/2018 SeqNo: 1796473 Units: mg/Kg
Analyte		Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride		ND 1.5
Sample ID	LCS-40464	SampType: Ics TestCode: EPA Method 300.0: Anions
Client ID:	LCSS	Batch ID: 40464 RunNo: 54277
Prep Date:	9/19/2018	Analysis Date: 9/19/2018 SeqNo: 1796474 Units: mg/Kg
Analyte		Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride		14 1.5 15.00 0 94.5 90 110
Sample ID	MB-40474	SampType: mblk TestCode: EPA Method 300.0: Anions
Client ID:	PBS	Batch ID: 40474 RunNo: 54278
Prep Date:	9/20/2018	Analysis Date: 9/20/2018 SeqNo: 1798025 Units: mg/Kg
Analyte		Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride		ND 1.5
Sample ID	LCS-40474	SampType: Ics TestCode: EPA Method 300.0: Anions
Client ID:	LCSS	Batch ID: 40474 RunNo: 54278
Prep Date:	9/20/2018	Analysis Date: 9/20/2018 SeqNo: 1798026 Units: mg/Kg
Analyte		Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride		14 1.5 15.00 0 94.3 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 Quanitative 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

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Released to Imaging: 3/22/2023 2:08:49 PM

- WO#: **1809855**
 - 24-Sep-18

Client:Souder, IProject:Abe Unit	Miller & Ass 2	sociate	es							
Sample ID MB-40397	SampTy	pe: M	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: PBS	Batch	ID: 40	397	F	RunNo: 5	4224				
Prep Date: 9/17/2018	Analysis Da	te: 9/	/18/2018	S	SeqNo: 1	793206	Units: mg/k	٢g		
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	9.8		10.00		98.0	50.6	138			
Sample ID LCS-40397	SampTy	pe: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch	ID: 40	397	F	RunNo: 5	4224				
Prep Date: 9/17/2018	Analysis Da	te: 9/	/18/2018	S	SeqNo: 1	793209	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.2	70	130			
Surr: DNOP	4.6		5.000		91.1	50.6	138			
Sample ID 1809855-001AMS	D SampTy	pe: M\$	SD	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: SW8	Batch	ID: 40	397	F	RunNo: 5	4224				
Prep Date: 9/17/2018	Analysis Da	te: 9/	/18/2018	S	SeqNo: 1	793239	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	49.80	0	93.3	53.5	126	0	21.7	
Surr: DNOP	4.5		4.980		90.8	50.6	138	0	0	
Sample ID 1809855-001AMS	SampTy	pe: M\$	S	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: SW8	Batch	ID: 40	397	F	RunNo: 5	4224				
Prep Date: 9/17/2018	Analysis Da	te: 9/	/18/2018	S	SeqNo: 1	793241	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	9.7	48.69	0	101	53.5	126			
Surr: DNOP	4.4		4.869		89.4	50.6	138			
Sample ID MB-40400	SampTy	pe: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
	Batch	ID: 40	400	F	RunNo: 5	4220				
Client ID: PBS	Daton									
Client ID: PBS Prep Date: 9/17/2018	Analysis Da	te: 9/	/18/2018	S	SeqNo: 1	793243	Units: mg/k	٢g		
		te: 9/ PQL		SPK Ref Val	•		Units: mg/ł HighLimit	(g %RPD	RPDLimit	Qual
Prep Date: 9/17/2018 Analyte Diesel Range Organics (DRO)	Analysis Da				•		_	-	RPDLimit	Qual
Prep Date: 9/17/2018 Analyte	Analysis Da Result	PQL			•		_	-	RPDLimit	Qual

Qualifiers:

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- H Holding times for preparation or analysis exceeded
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- PQL Practical Quanitative 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

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WO#: 1809855 24-Sep-18

Client: Project:	Souder, N Abe Unit	Miller & As 2	ssociate	es							
Sample ID	LCS-40400	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	LCSS	Batch	ID: 404	400	R	RunNo: 5	4220				
Prep Date:	9/17/2018	Analysis D	ate: 9/	18/2018	S	SeqNo: 1	793245	Units: mg/k	٤g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (Organics (DRO)	41	10	50.00	0	82.4	70	130			
Surr: DNOP		3.7		5.000		74.5	50.6	138			
Sample ID	1809855-021AMS	SampT	ype: MS	6	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	SW4	Batch	ID: 40	400	R	anNo: 5	4220				
Prep Date:	9/17/2018	Analysis D	ate: 9/	18/2018	S	SeqNo: 1	794650	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (Organics (DRO)	52	10	50.10	0	104	53.5	126			
Surr: DNOP		5.1		5.010		101	50.6	138			
Sample ID	1809855-021AMS	D SampT	уре: МS	SD	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	SW4	Batch	ID: 40	400	R	RunNo: 5	4220				
Prep Date:	9/17/2018	Analysis D	ate: 9/	18/2018	S	SeqNo: 1	794651	Units: mg/k	ζg		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (Organics (DRO)	48	10	49.75	0	95.9	53.5	126	8.69	21.7	
Surr: DNOP		4.6		4.975		91.5	50.6	138	0	0	

Qualifiers:

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- PQL Practical Quanitative 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

1809855

24-Sep-18

WO#:

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Project: Abe Unit 2 Sample ID MB-40363 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: PBS Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792370 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Gasoline Range Organics (GRO) ND 5.0 Sample ID LCS-40363 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792371 Units: mg/Kg Analyte Result PQL SPK Value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Gasoline Range Organics (GRO) 25 5.0 25.00 0 99.7 75.9 131	-	Souder, N	filler & Asso	ociate	S							
Client ID: PBS Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792370 Units: mg/Kg Analyte Result POL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Gasoline Range Organics (GRO) ND 5.0	Sample ID	Abe Unit	2									
Prep Date:9/14/2018Analysis Date:9/17/2018SeqNo:1792370Units:mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQualGasoline Range Organics (GRO)ND5.0Surr: BFB910100091.315316Sample IDLCS-40363SampType:LCSTestCode:EPA Method 8015D:Gasoline RangeClient ID:LCSSBatch ID:40363RunNo:54206Prep Date:9/14/2018Analysis Date:9/17/2018SeqNo:1792371Units:mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQualGasoline Range Organics (GRO)255.025.00099.775.9131Surr: BFB1100100010915316Sample ID1809855-001AMSSampType:MSTestCode:EPA Method 8015D:Gasoline RangeClient ID:SW8Batch ID:40363RunNo:54206Frep Date:9/14/2018Analysis Date:9/17/2018SeqNo:1792373Units:mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQualGasoline Range Organics (GRO)224.622.91095.477.8128Surr: BFB1000916.610915 <th></th> <th>MB-40363</th> <th>SampTyp</th> <th>e: MB</th> <th>BLK</th> <th>Test</th> <th>tCode: EF</th> <th>PA Method</th> <th>8015D: Gaso</th> <th>line Rang</th> <th>e</th> <th></th>		MB-40363	SampTyp	e: MB	BLK	Test	tCode: EF	PA Method	8015D: Gaso	line Rang	e	
AnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQualGasoline Range Organics (GR0)ND5.0Surr: BFB910100091.315316Sample IDLCS-40363SampType: LCSTestCode: EPA Method 8015D: Gasoline RangeClient ID:LCSSBatch ID:40363RunNo:54206Prep Date:9/14/2018Analysis Date:9/17/2018SeqNo:1792371Units:mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQualGasoline Range Organics (GR0)255.025.0009.775.9131Surr: BFB1100100010915316Sample ID1809855-001AMSSampType: MSTestCode: EPA Method 8015D: Gasoline RangeClient ID:SW8Batch ID:40363RunNo:54206Prep Date:9/14/2018Analysis Date:9/17/2018SeqNo:1792373Units:mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQualGasoline Range Organics (GR0)224.622.91095.477.8128Sur: BFB1000916.610915316Sur:: BFB1000916.610915316Sample ID189855-001AMSDSampType: MSDTestCode: EPA Method 8015D: Gasoline	Client ID:	PBS	Batch II	D: 40 3	363	R	unNo: 54	4206				
Gasoline Range Organics (GR0) ND 5.0 Surr: BFB 910 1000 91.3 15 316 Sample ID LCS-40363 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792371 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Gasoline Range Organics (GR0) 25 5.0 25.00 0 99.7 75.9 131 Surr: BFB 1100 1000 109 15 316 Sample ID 1809855-001AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range Client ID: SW8 Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792373 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	Prep Date:	9/14/2018	Analysis Date	e: 9/ 1	17/2018	S	eqNo: 17	792370	Units: mg/k	٢g		
Surr: BFB 910 1000 91.3 15 316 Sample ID LCS-40363 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792371 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Gasoline Range Organics (GRO) 25 5.0 25.00 0 99.7 75.9 131 Surr: BFB 1100 1000 109 15 316 Sample ID 1809855-001AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range Client ID: SW8 Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792373 Units: mg/Kg	Analyte		Result I	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Client ID:LCSSBatch ID:40363RunNo:54206Prep Date:9/14/2018Analysis Date:9/17/2018SeqNo:1792371Units:mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQualGasoline Range Organics (GRO)255.025.00099.775.9131	-	e Organics (GRO)		5.0	1000		91.3	15	316			
Prep Date:9/14/2018Analysis Date:9/17/2018SeqNo:1792371Units:mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQualGasoline Range Organics (GRO)255.025.00099.775.9131Surr: BFB1100100010915316Sample ID1809855-001AMSSampType:MSTestCode:EPA Method 8015D:Gasoline RangeClient ID:SW8Batch ID:40363RunNo:54206Prep Date:9/14/2018Analysis Date:9/17/2018SeqNo:1792373Units:mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQualGasoline Range Organics (GRO)224.622.91095.477.8128Surr: BFB1000916.610915316Sample ID1809855-001AMSDSampType:MSDTestCode:EPA Method 8015D:Gasoline RangeClient ID:SW8Batch ID:40363RunNo:54206Sample ID1809855-001AMSDSampType:MSDTestCode:EPA Method 8015D:Gasoline RangeClient ID:SW8Batch ID:40363RunNo:54206Prep Date:9/17/2018SeqNo:1792374Units:mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimit <t< td=""><td>Sample ID</td><td>LCS-40363</td><td>SampTyp</td><td>e: LC</td><td>S</td><td>Test</td><td>tCode: EF</td><td>PA Method</td><td>8015D: Gaso</td><td>line Rang</td><td>e</td><td></td></t<>	Sample ID	LCS-40363	SampTyp	e: LC	S	Test	tCode: EF	PA Method	8015D: Gaso	line Rang	e	
AnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQualGasoline Range Organics (GR0)255.025.00099.775.9131Surr: BFB1100100010915316Sample ID1809855-001AMSSampType:MSTestCode:EPA Method 8015D:Gasoline RangeClient ID:SW8Batch ID:40363RunNo:54206Prep Date:9/14/2018Analysis Date:9/17/2018SeqNo:1792373Units:mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQualGasoline Range Organics (GR0)224.622.91095.477.8128316Surr: BFB1000916.61091531654206542065420654206Sample ID1809855-001AMSDSampType:MSDTestCode:EPA Method 8015D:Gasoline RangeClient ID:SW8Batch ID:40363RunNo:5420654206Prep Date:9/14/2018Analysis Date:9/17/2018SeqNo:1792374Units:mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQual	Client ID: I	LCSS	Batch II): 40 3	363	R	unNo: 54	4206				
Gasoline Range Organics (GRO) 25 5.0 25.00 0 99.7 75.9 131 Surr: BFB 1100 1000 109 15 316 Sample ID 1809855-001AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range Client ID: SW8 Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792373 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Gasoline Range Organics (GRO) 22 4.6 22.91 0 95.4 77.8 128 Surr: BFB 1000 916.6 109 15 316 316 Sample ID 1809855-001AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Client ID: SW8 Batch ID: 40363 RunNo: 54206 916.6 109 15 316 Sample ID 1809855-001AMSD SampTyp	Prep Date:	9/14/2018	Analysis Date	e: 9/ 1	17/2018	S	eqNo: 17	792371	Units: mg/k	٢g		
Surr: BFB 1100 1000 109 15 316 Sample ID 1809855-001AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range Client ID: SW8 Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792373 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Gasoline Range Organics (GRO) 22 4.6 22.91 0 95.4 77.8 128 Surr: BFB 1000 916.6 109 15 316 109 15 316 Sample ID 1809855-001AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Easoline Range Client ID: SW8 Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792374 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC L					SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID 1809855-001AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range Client ID: SW8 Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792373 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Gasoline Range Organics (GRO) 22 4.6 22.91 0 95.4 77.8 128 Surr: BFB 1000 916.6 109 15 316 150 150 160 Sample ID 1809855-001AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Client ID: SW8 Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792374 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RP		e Organics (GRO)	-	5.0		0						
Client ID:SW8Batch ID:40363RunNo:54206Prep Date:9/14/2018Analysis Date:9/17/2018SeqNo:1792373Units:mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQualGasoline Range Organics (GRO)224.622.91095.477.8128Surr: BFB1000916.610915316Sample ID1809855-001AMSDSampType:MSDTestCode:EPA Method 8015D:Gasoline RangeClient ID:SW8Batch ID:40363RunNo:54206Prep Date:9/14/2018Analysis Date:9/17/2018SeqNo:1792374Units:mg/KgAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQual	Surr: BFB		1100		1000		109	15	316			
Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792373 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Gasoline Range Organics (GRO) 22 4.6 22.91 0 95.4 77.8 128 Surr: BFB 1000 916.6 109 15 316 916 109 15 316 Sample ID 1809855-001AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Client ID: SW8 Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792374 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	Sample ID 1	1809855-001AMS	SampTyp	e: MS	5	Test	tCode: EF	PA Method	8015D: Gaso	line Rang	e	
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Gasoline Range Organics (GRO) 22 4.6 22.91 0 95.4 77.8 128 Surr: BFB 1000 916.6 109 15 316 316 Sample ID 1809855-001AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Client ID: SW8 Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792374 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	Client ID:	SW8	Batch II): 40 3	363	R	unNo: 54	4206				
Gasoline Range Organics (GRO) 22 4.6 22.91 0 95.4 77.8 128 Surr: BFB 1000 916.6 109 15 316 Sample ID 1809855-001AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Client ID: SW8 Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792374 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	Prep Date:	9/14/2018	Analysis Date	e: 9/ 1	17/2018	S	eqNo: 17	792373	Units: mg/k	٢g		
Surr: BFB 1000 916.6 109 15 316 Sample ID 1809855-001AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Client ID: SW8 Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792374 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	,					SPK Ref Val			3	%RPD	RPDLimit	Qual
Sample ID 1809855-001AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Client ID: SW8 Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792374 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual		e Organics (GRO)		4.6		0						
Client ID: SW8 Batch ID: 40363 RunNo: 54206 Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792374 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	SUII: BFB		1000		910.0		109	15	310			
Prep Date: 9/14/2018 Analysis Date: 9/17/2018 SeqNo: 1792374 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	Sample ID 1	1809855-001AMSE	SampTyp	e: MS	D	Test	tCode: EF	PA Method	8015D: Gaso	oline Rang	е	
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	Client ID:	SW8	Batch II): 403	363	R	unNo: 54	4206				
	Prep Date:	9/14/2018	Analysis Date	e: 9/ 1	17/2018	S	eqNo: 17	792374	Units: mg/k	(g		
	1					SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	,	e Organics (GRO)	21									
	Gasoline Range	0 . ,		4.8	24.02	0	85.4	77.8	128	6.38	20	
Sample ID MB-40379 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range	,	5 . <i>,</i>	1000	4.8	24.02 960.6	0	85.4 109	77.8 15	128 316	6.38 0	20 0	
Client ID: PBS Batch ID: 40379 RunNo: 54235	Gasoline Range Surr: BFB Sample ID	MB-40379	1000 SampTyp	e: MB	960.6		109	15	316	0	0	
Prep Date: 9/17/2018 Analysis Date: 9/18/2018 SeqNo: 1793581 Units: mg/Kg	Gasoline Range Surr: BFB Sample ID M Client ID: F	MB-40379 PBS	1000 SampTyp Batch II	De: MB	960.6 BLK 379	Test	109 Code: EF	15 PA Method 4235	316 8015D: Gaso	0 Dine Rang	0	
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	Gasoline Range Surr: BFB Sample ID M Client ID: F	MB-40379 PBS	1000 SampTyp Batch II	De: MB	960.6 BLK 379	Test	109 Code: EF	15 PA Method 4235	316 8015D: Gaso	0 Dine Rang	0	
Gasoline Range Organics (GRO) ND 5.0 Surr: BFB 940 1000 93.7 15 316	Gasoline Range Surr: BFB Sample ID I Client ID: I Prep Date: Analyte	MB-40379 PBS 9/17/2018	1000 SampTyp Batch II Analysis Date Result	e: MB D: 403 e: 9/ 1 PQL	960.6 BLK 379 18/2018	Test R S	109 Code: EF tunNo: 54 SeqNo: 17	15 PA Method 4235 793581	316 8015D: Gaso Units: mg/F	0 Dine Rang Kg	0 e	Qual
Sample ID LCS-40379 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range	Gasoline Range Surr: BFB Sample ID M Client ID: M Prep Date: Analyte Gasoline Range	MB-40379 PBS 9/17/2018	1000 SampTyp Batch II Analysis Date Result I ND	De: MB D: 403 e: 9/1	960.6 BLK 379 18/2018 SPK value	Test R S	109 Code: EF CunNo: 54 GeqNo: 17 %REC	15 PA Method 1235 793581 LowLimit	316 8015D: Gaso Units: mg/k HighLimit	0 Dine Rang Kg	0 e	Qual
Client ID: LCSS Batch ID: 40379 RunNo: 54235	Gasoline Range Surr: BFB Sample ID M Client ID: F Prep Date: Analyte Gasoline Range Surr: BFB	MB-40379 PBS 9/17/2018 e Organics (GRO)	1000 SampTyp Batch II Analysis Date Result I ND 940	De: MB D: 403 e: 9/ 1 PQL 5.0	960.6 BLK 379 18/2018 SPK value 1000	Test R S SPK Ref Val	109 Code: EF SunNo: 54 GeqNo: 17 %REC 93.7	15 PA Method 1235 793581 LowLimit 15	316 8015D: Gaso Units: mg/P HighLimit 316	0 Dine Rang Kg %RPD	0 e RPDLimit	Qual
Prep Date: 9/17/2018 Analysis Date: 9/18/2018 SeqNo: 1793582 Units: mg/Kg	Gasoline Range Surr: BFB Sample ID I Client ID: F Prep Date: Analyte Gasoline Range Surr: BFB Sample ID I	MB-40379 PBS 9/17/2018 e Organics (GRO) LCS-40379	1000 SampTyp Batch II Analysis Date Result I ND 940 SampTyp	De: MB D: 403 e: 9/ 1 PQL 5.0 De: LC	960.6 3LK 379 18/2018 SPK value 1000 S	Test R SPK Ref Val Test	109 tCode: EF tunNo: 54 teqNo: 17 %REC 93.7 tCode: EF	15 PA Method 4235 793581 LowLimit 15 PA Method	316 8015D: Gaso Units: mg/P HighLimit 316	0 Dine Rang Kg %RPD	0 e RPDLimit	Qual
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	Gasoline Range Surr: BFB Sample ID I Client ID: F Prep Date: Analyte Gasoline Range Surr: BFB Sample ID I Client ID: I	MB-40379 PBS 9/17/2018 e Organics (GRO) LCS-40379 LCSS	1000 SampTyp Batch II Analysis Date Result I ND 940 SampTyp Batch II	De: MB D: 403 e: 9/1 PQL 5.0 De: LC D: 403	960.6 BLK 379 18/2018 SPK value 1000 S 379	Test R SPK Ref Val Test R	109 tCode: EF tunNo: 54 ieqNo: 17 %REC 93.7 tCode: EF	15 PA Method 1235 793581 LowLimit 15 PA Method 1235	316 8015D: Gaso Units: mg/F HighLimit 316 8015D: Gaso	0 Dine Rang Kg %RPD Dine Rang	0 e RPDLimit	Qual

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 Quanitative 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

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Client: Project:	Souder, N Abe Unit	Miller & As t 2	ssociate	es							
Sample ID	LCS-40379	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015D: Gasc	oline Rang	е	
Client ID:	LCSS	Batch	n ID: 403	379	R	anNo: 5	4235				
Prep Date:	9/17/2018	Analysis D	ate: 9/	18/2018	S	SeqNo: 1	793582	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	25	5.0	25.00	0	101	75.9	131			
Surr: BFB		1100		1000		105	15	316			
Sample ID	1809855-021AMS	SampT	ype: MS	3	Tes	tCode: El	PA Method	8015D: Gasc	oline Rang	e	
Client ID:	SW4	Batch	n ID: 403	379	R	anNo: 5	4235				
Prep Date:	9/17/2018	Analysis D	ate: 9/	18/2018	S	SeqNo: 1	793584	Units: mg/k	٨g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	26	4.8	23.92	0	110	77.8	128			
Surr: BFB		1000		956.9		108	15	316			
Sample ID	1809855-021AMS	D SampT	ype: MS	SD	TestCode: EPA Method 8015D: Gasoline Range						
Client ID:	SW4	Batch	n ID: 403	379	R	lunNo: 5	4235				
Prep Date:	9/17/2018	Analysis D	ate: 9/	18/2018	S	SeqNo: 1	793585	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	26	4.8	24.08	0	109	77.8	128	0.280	20	
Surr: BFB		1000		963.4		108	15	316	0	0	

Qualifiers:

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

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Client:	Souder, M	filler & A	ssociate	s							
Project:	Abe Unit	2									
Sample ID	MB-40363	Samo	Гуре: МЕ	N K	Tes	tCode: FI	PA Method	8021B: Vola	tiles		
	PBS	•	h ID: 40			lunNo: 54		002121100			
Prep Date:	-	Analysis [SeqNo: 1		Units: mg/k	Ka		
Analyte		Result	PQL		SPK Ref Val	•		HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	0.025			JUICEO	LowEnnit	T light Linht			Quui
Toluene		ND	0.050								
Ethylbenzene		ND	0.050								
Xylenes, Total		ND	0.10								
Surr: 4-Brom	ofluorobenzene	0.94		1.000		93.8	80	120			
Sample ID	LCS-40363	Samp	Type: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	LCSS	Batc	h ID: 40 :	363	R	RunNo: 54	4206				
Prep Date:	9/14/2018	Analysis [Date: 9/	17/2018	S	SeqNo: 1	792414	Units: mg/h	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.95	0.025	1.000	0	94.6	77.3	128			
Toluene		0.98	0.050	1.000	0	97.6	79.2	125			
Ethylbenzene		0.96	0.050	1.000	0	95.9	80.7	127			
Xylenes, Total		2.9	0.10	3.000	0	96.4	81.6	129			
Surr: 4-Brom	ofluorobenzene	0.96		1.000		96.2	80	120			
Sample ID	1809855-002AMS	Samp	Гуре: МS	5	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	CS7-2	Batc	h ID: 40 :	363	R	RunNo: 54	4206				
Prep Date:	9/14/2018	Analysis [Date: 9/	17/2018	S	SeqNo: 1	792417	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.89	0.025	0.9950	0	89.4	68.5	133			
Toluene		0.94	0.050	0.9950	0.009309	93.3	75	130			
Ethylbenzene		0.93	0.050	0.9950	0	93.5	79.4	128			
Xylenes, Total		2.9	0.10	2.985	0.01564	95.1	77.3	131			
Surr: 4-Brom	ofluorobenzene	0.98		0.9950		98.5	80	120			
Sample ID	1809855-002AMSE	Samp	Гуре: МS	SD	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	CS7-2	Batc	h ID: 40	363	R	RunNo: 54	4206				
Prep Date:	9/14/2018	Analysis [Date: 9/	17/2018	S	SeqNo: 1	792418	Units: mg/k	٢g		
Analyte		Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
-		0.85	0.024	0.9756	0	86.8	68.5	133	4.83	20	
Toluene		0.89	0.049	0.9756	0.009309	90.5	75	130	4.95	20	
Toluene Ethylbenzene		0.89 0.90	0.049 0.049	0.9756 0.9756	0	91.9	79.4	128	3.64	20	
Benzene Toluene Ethylbenzene Xylenes, Total	nofluorobenzene	0.89	0.049	0.9756							

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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

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Client:	Souder, N	filler & A	ssociate	es								
Project:	Abe Unit	2										
					_							
Sample ID			Type: ME					8021B: Vola	tiles			
		Batc	h ID: 40	379	R	unNo: 54	4235					
Prep Date:	9/17/2018	Analysis [Date: 9/	18/2018	S	eqNo: 1	793623	Units: mg/k	٢g			
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-Brom	nofluorobenzene	0.96		1.000		96.1	80	120				
Sample ID	LCS-40379	Samp	Type: LC	S	Tes	Code: El	PA Method	8021B: Vola	tiles			
Client ID:	LCSS	R	unNo: 54	4235								
Prep Date:	9/17/2018	Analysis [Date: 9/	18/2018	S	eqNo: 1	793624	Units: mg/k	٢g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene		0.93	0.025	1.000	0	92.8	77.3	128				
Foluene		0.97	0.050	1.000	0	97.0	79.2	125				
Ethylbenzene		0.96	0.050	1.000	0	96.0	80.7	127				
Xylenes, Total		2.9	0.10	3.000	0	95.6	81.6	129				
Surr: 4-Brom	nofluorobenzene	0.97		1.000		97.0	80	120				
						TestCode: EPA Method 8021B: Volatiles						
Sample ID	1809855-022AMS	Samp ⁻	Туре: МS	6	Tes	Code: El	PA Method	8021B: Vola	tiles			
Sample ID Client ID:			Type: MS h ID: 40 3			Code: El		8021B: Vola	tiles			
Client ID:			h ID: 40	379	R		4235	8021B: Vola Units: mg/k				
Client ID:	SW2	Batc	h ID: 40	379 18/2018	R	unNo: 54	4235			RPDLimit	Qual	
Client ID: Prep Date: Analyte	SW2	Batc Analysis [h ID: 40 : Date: 9/	379 18/2018	R	unNo: 54 eqNo: 1	4235 793627	Units: mg/k	(g	RPDLimit	Qual	
Client ID: Prep Date: Analyte Benzene	SW2	Batc Analysis [Result	h ID: 40 : Date: 9/ PQL	379 18/2018 SPK value	R S SPK Ref Val	unNo: 54 eqNo: 1 %REC	4235 793627 LowLimit	Units: mg/F HighLimit	(g	RPDLimit	Qual	
Client ID: Prep Date: Analyte Benzene Toluene	SW2	Batc Analysis [Result 0.94	h ID: 40 : Date: 9/ <u>PQL</u> 0.024	379 18/2018 SPK value 0.9425	R SPK Ref Val 0	unNo: 5 eqNo: 1 %REC 100	4235 793627 LowLimit 68.5	Units: mg/k HighLimit 133	(g	RPDLimit	Qual	
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene	SW2	Batc Analysis I Result 0.94 0.99	h ID: 40 Date: 9/ PQL 0.024 0.047	379 18/2018 SPK value 0.9425 0.9425	F S SPK Ref Val 0 0.009524	unNo: 54 eqNo: 17 %REC 100 104	4235 793627 LowLimit 68.5 75	Units: mg/k HighLimit 133 130	(g	RPDLimit	Qual	
Client ID: Prep Date: Analyte Benzene Foluene Ethylbenzene Kylenes, Total	SW2	Batc Analysis I Result 0.94 0.99 0.99	h ID: 40 : Date: 9/ <u>PQL</u> 0.024 0.047 0.047	379 18/2018 SPK value 0.9425 0.9425 0.9425	R S SPK Ref Val 0 0.009524 0	unNo: 54 eqNo: 17 <u>%REC</u> 100 104 106	4235 793627 LowLimit 68.5 75 79.4	Units: mg/k HighLimit 133 130 128	(g	RPDLimit	Qual	
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom	SW2 9/17/2018	Batc Analysis I Result 0.99 0.99 3.0 0.92	h ID: 40 : Date: 9/ <u>PQL</u> 0.024 0.047 0.047	379 18/2018 SPK value 0.9425 0.9425 0.9425 2.828 0.9425	R SPK Ref Val 0 0.009524 0 0.01574	aunNo: 54 aeqNo: 17 %REC 100 104 106 105 97.4	4235 793627 LowLimit 68.5 75 79.4 77.3 80	Units: mg/k HighLimit 133 130 128 131	(g %RPD	RPDLimit	Qual	
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom	SW2 9/17/2018 nofluorobenzene 1809855-022AMSE	Batc Analysis I Result 0.94 0.99 0.99 3.0 0.92	h ID: 40: Date: 9/ PQL 0.024 0.047 0.047 0.094	379 18/2018 SPK value 0.9425 0.9425 0.9425 2.828 0.9425 5D	F SPK Ref Val 0 0.009524 0 0.01574 Tes	aunNo: 54 aeqNo: 17 %REC 100 104 106 105 97.4	4235 793627 LowLimit 68.5 75 79.4 77.3 80 PA Method	Units: mg/k HighLimit 133 130 128 131 120	(g %RPD	RPDLimit	Qual	
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Kylenes, Total Surr: 4-Brom Sample ID	SW2 9/17/2018 nofluorobenzene 1809855-022AMSE SW2	Batc Analysis I Result 0.94 0.99 0.99 3.0 0.92	h ID: 40: Date: 9/ PQL 0.024 0.047 0.047 0.094 Type: MS h ID: 40:	379 18/2018 SPK value 0.9425 0.9425 2.828 0.9425 379	R SPK Ref Val 0 0.009524 0 0.01574 Tes: R	unNo: 54 eqNo: 17 <u>%REC</u> 100 104 106 105 97.4	4235 793627 LowLimit 68.5 75 79.4 77.3 80 PA Method 4235	Units: mg/k HighLimit 133 130 128 131 120	Kg %RPD	RPDLimit	Qual	
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Kylenes, Total Surr: 4-Brom Sample ID Client ID:	SW2 9/17/2018 nofluorobenzene 1809855-022AMSE SW2	Batc Analysis I Result 0.99 0.99 3.0 0.92 D Samp Batc	h ID: 40: Date: 9/ PQL 0.024 0.047 0.047 0.094 Type: MS h ID: 40:	379 18/2018 SPK value 0.9425 0.9425 2.828 0.9425 379 18/2018	R SPK Ref Val 0 0.009524 0 0.01574 Tes: R	AunNo: 54 AeqNo: 17 %REC 100 104 106 105 97.4 Code: EF	4235 793627 LowLimit 68.5 75 79.4 77.3 80 PA Method 4235	Units: mg/k HighLimit 133 130 128 131 120 8021B: Vola	Kg %RPD	RPDLimit	Qual	
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Kylenes, Total Surr: 4-Brom Sample ID Client ID: Prep Date:	SW2 9/17/2018 nofluorobenzene 1809855-022AMSE SW2	Batc Analysis I Result 0.94 0.99 0.99 3.0 0.92 0.92 D Samp Batc Analysis I	h ID: 40: Date: 9/ PQL 0.024 0.047 0.047 0.094 Type: MS h ID: 40: Date: 9/	379 18/2018 SPK value 0.9425 0.9425 2.828 0.9425 379 18/2018	R SPK Ref Val 0 0.009524 0 0.01574 Tes R S	unNo: 54 eqNo: 1 %REC 100 104 106 105 97.4 Code: EF unNo: 54 eqNo: 1	4235 793627 LowLimit 68.5 75 79.4 77.3 80 PA Method 4235 793628	Units: mg/k HighLimit 133 130 128 131 120 8021B: Vola Units: mg/k	Kg %RPD tiles			
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Kylenes, Total Surr: 4-Brom Sample ID Client ID: Prep Date: Analyte	SW2 9/17/2018 nofluorobenzene 1809855-022AMSE SW2	Batc Analysis I Result 0.99 0.99 3.0 0.92 D Samp Batc Analysis I Result	h ID: 40: Date: 9/ PQL 0.024 0.047 0.047 0.094 Type: MS h ID: 40: Date: 9/ PQL	379 18/2018 SPK value 0.9425 0.9425 2.828 0.9425 379 18/2018 SPK value	R SPK Ref Val 0 0.009524 0 0.01574 Tes: R SPK Ref Val	unNo: 5/ eqNo: 1 %REC 100 104 106 105 97.4 Code: EF unNo: 5/ eqNo: 1 %REC	4235 793627 LowLimit 68.5 75 79.4 77.3 80 PA Method 4235 793628 LowLimit	Units: mg/k HighLimit 133 130 128 131 120 8021B: Vola Units: mg/k HighLimit	<pre>%g %RPD tiles %g %RPD</pre>	RPDLimit		
Client ID: Prep Date: Analyte Benzene Foluene Ethylbenzene Kylenes, Total Surr: 4-Brom Sample ID Client ID: Prep Date: Analyte Benzene Foluene	SW2 9/17/2018 nofluorobenzene 1809855-022AMSE SW2	Batc Analysis I Result 0.99 0.99 3.0 0.92 0 Samp Batc Analysis I Result 0.97	h ID: 40: Date: 9/ PQL 0.024 0.047 0.047 0.094 Type: MS h ID: 40: Date: 9/ PQL 0.025	379 18/2018 SPK value 0.9425 0.9425 2.828 0.9425 379 18/2018 SPK value 0.9833	R SPK Ref Val 0 0.009524 0 0.01574 Tes: R SPK Ref Val 0	aunNo: 54 aeqNo: 17 %REC 100 104 106 105 97.4 Code: Ef aunNo: 54 aeqNo: 17 %REC 98.5	4235 793627 LowLimit 68.5 75 79.4 77.3 80 PA Method 4235 793628 LowLimit 68.5	Units: mg/k HighLimit 133 130 128 131 120 8021B: Vola Units: mg/k HighLimit 133	<pre>%g %RPD tiles %g %RPD 2.57</pre>	RPDLimit 20		
Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Kylenes, Total Surr: 4-Brom Sample ID Client ID: Prep Date: Analyte Benzene	SW2 9/17/2018 nofluorobenzene 1809855-022AMSE SW2	Analysis I Result 0.94 0.99 0.99 3.0 0.92 0.92 3.0 0.92 Analysis I Result 0.97 1.0	h ID: 40: Date: 9/ PQL 0.024 0.047 0.047 0.047 0.094 Type: MS h ID: 40: Date: 9/ PQL 0.025 0.049	379 18/2018 SPK value 0.9425 0.9425 2.828 0.9425 379 18/2018 SPK value 0.9833 0.9833 0.9833	SPK Ref Val 0 0.009524 0 0.01574 Tes SPK Ref Val 0 0.009524	aunNo: 54 aeqNo: 17 %REC 100 104 106 105 97.4 Code: Ef aunNo: 54 aeqNo: 17 %REC 98.5 103	4235 793627 LowLimit 68.5 75 79.4 77.3 80 PA Method 4235 793628 LowLimit 68.5 75	Units: mg/k HighLimit 133 130 128 131 120 8021B: Vola Units: mg/k HighLimit 133 130	<pre>Kg %RPD tiles Kg %RPD 2.57 3.07</pre>	RPDLimit 20 20		

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 Quanitative 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

1809855

24-Sep-18

WO#:

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HALL ENVIRONMENTAL ANALYSIS LABORATORY	TEL: 505-345-2	ntal Analysis Labo. 4901 Hawlai Albuquerque, NM 6 8975 FAX: 505-345 w.hallenvironmenta	ns NE 87105 San -4107	nple Log-In Check Lis	st
Client Name: SMA-CARLSBAD	Work Order Num	ber: 1809855	-	RcptNo: 1	
Received By: Jazzmine Burkhead 9	(14/2018 8:55:00	АМ	file-Buckhal		
Completed By: Ashley Gallegos 9	14/2018 11:02:44	AM	AZ		
Reviewed By: ENM	4/18 L	abeleol	by:	JAB 09/14/19	2
Chain of Custody					
1. Is Chain of Custody complete?		Yes 🗹	No 🗀	Not Present	
2. How was the sample delivered?		<u>Courier</u>			
Log In 3. Was an attempt made to cool the samples?		Yes 🗹	No 🗌		
4. Were all samples received at a temperature of	>0° C to 6.0°C	Yes 🗹	No 🗌		
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 pr	eserved?	Yes 🗹	No 🗌		
8. Was preservative added to bottles?		Yes 🗌	No 🗹	NA 🗆	
9. VOA vials have zero headspace?		Yes	No 🗔	No VOA Vials 🗹	
0. Were any sample containers received broken?		Yes	No 🗹	# of preserved	ł
1. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	No 🗌	bottles checked for pH: (<2 or >12 unless not	
2. Are matrices correctly identified on Chain of Cus	tody?	Yes 🗹	No 🗆	Adjusted?	Cryl i
3. Is it clear what analyses were requested?		Yes 🗹	No 🗌	TIK	Ŭ
 Were all holding times able to be met? (If no, notify customer for authorization.) 		Yes 🗹	No 🗌	Checked by:	
pecial Handling (if applicable)					
15. Was client notified of all discrepancies with this	order?	Yes 🗌	No 🗌	NA 🗹	
Person Notified:	Date				
By Whom:	Via:	eMail 🗌 I	Phone 🗌 Fax	In Person	
Regarding:					
Client Instructions:					
16. Additional remarks:					
7. <u>Cooler Information</u>					
Cooler No Temp °C Condition Seal	ntact Seal No	Seal Date	Signed By		
1 4.2 Good Yes					

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(N or V) selddug riA ANALYSIS LABORATORY HALL ENVIRONMENTAL This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report. 4901 Hawkins NE - Albuquerque, NM 87109 Fax 505-345-4107 (AOV-ime2) 0728 www.hallenvironmental.com Analysis Request (AOV) 80928 8081 Pesticides / 8082 PCB's (¹OS, ¹OO, ²ON, ²ON, ²ON, ¹O) snoinA **SIGIA 8 Metals** Tel. 505-345-3975 (SMIS 0728 to 0168) a'HA9 (1.405 bodteM) 8G3 (1.814 bodteM) H9T (OAM / OAO / OAO) 80108 H97 > > Remarks ÷ ≷ MTBE + TPH (Gas only) + XETA (1208) s'BMT + 38TM (XETB >× 08:54 ğ 809955 -004 100--008 -003 L00-600--000 200 600-HEAL No. 100- \tilde{O}_{-} cted to other accredited laboratories. 🗆 Rush Preservative 0 Type Sample Temperature: Turn-Around Time: Project Manager Standard Name Container Type and # 102 Project # Sampler: Received by Project On Ice: C submitted to Hall Environmental may be subcontry Level 4 (Full Validation) Sample Request ID Chain-of-Custody Record SWG C いろう -65 Swog 5 ~ 12 57-いてい 1 S J - 2 525 C58-55 3 Other Dec Matrix 261 lf necessary, samples Client: SM Mailing Address: 743 1:52 920 QA/QC Package: Time Ś Diel 1:59 1:12 A.B \tilde{z} EDD (Type) 3 email or Fax#: 100 6:3 Accreditation Time: Standard ime: D NELAP ſ Phone #: Date Date:

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nd Time: S duytur	Idard D Rush ANALYSTS J ABORATORY		He Un チキス 4901 Hawki	Tel. 505-345-3975	Analysis	(O) (I)	NV Mr (8051 (8051	Heatle 14 Heven 1, 102, 1 1002, 1 100	Imperature: K	Preservative Type								D20 X X I X		-022 X X	-023 X X	p1 -024	M g//3//8/50 Remarks:	1. Route Time March Bardh BLOTS
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Turn-Around Time: S dury tur-	ard	Project Name:	(the Unit #2	Project #:		Project Manager:	11 Wasnut	Sampler: Heatle Ja How I	amperature: 5, 6	HEAL NO.		X 410- 1 X	1 -015 ×	1 -0/0	X LI0-	XXX	A 610- /	/ 020 /	(-021)	-022 ×	-023 X	p1 -024	1 9/13/18 1500	
Chain-of-Custody Record		<u>a.</u>		Ē		<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	Level 4 (Full Validation)	Other		Matrix Sample Request ID	sil SWIU	/ SUZZ	SWIJ	SWS	1 CS6-2.5	(52-3)	CINX	SWIS	Swy	Swy	Sw	CS (1 march	Retinquished by: Re
Chain-of-	Client: SWN		Mailing Address:		Phone #:	email or Fax#:	QA/QC Package:		EDD (Type)	Date Time Mat	Ardis 15:23 So:	1 954	05:00	649	0.57	0);1]]/	/ 11.72/	/ 11.48 /	(I'll)) 11.37	<u>از برکر ا</u>	<u>, , , %</u>		Date: Time: Reling

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4	Chain-or-Custody Record	NMR										Matrix		ÿ									Relinquished		Refinquished by:	If necessary, samples submitted to Hall Environmental may be subconfracted to other accredited laboratories.
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September 25, 2018

Austin Weyant Souder, Miller & Associates 201 S Halagueno Carlsbad, NM 88221 TEL: (575) 689-7040 FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

RE: Abe Unit 2

OrderNo.: 1809A13

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/18/2018 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 <u>www.hallenvironmental.com</u> 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,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Lab Order 1809A13

Date Reported: 9/25/2018

CLIENT: Souder, Miller & AssociatesProject: Abe Unit 2Lab ID: 1809A13-001	Matrix: SOIL			e: 9/1	54 14/2018 3:58:00 AM 18/2018 8:40:00 AM	
Analyses	Result	PQL	Qual Units		Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: smb
Chloride	43	30	mg/Kg	20	9/23/2018 10:05:31 PM	40523
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: том
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/20/2018 1:57:04 PM	40460
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/20/2018 1:57:04 PM	40460
Surr: DNOP	74.6	50.6-138	%Rec	1	9/20/2018 1:57:04 PM	40460
EPA METHOD 8015D: GASOLINE RANGE	E				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	9/19/2018 11:16:10 PM	40423
Surr: BFB	91.7	15-316	%Rec	1	9/19/2018 11:16:10 PM	40423
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.024	mg/Kg	1	9/19/2018 11:16:10 PM	40423
Toluene	ND	0.048	mg/Kg	1	9/19/2018 11:16:10 PM	40423
Ethylbenzene	ND	0.048	mg/Kg	1	9/19/2018 11:16:10 PM	40423
Xylenes, Total	ND	0.097	mg/Kg	1	9/19/2018 11:16:10 PM	40423
Surr: 4-Bromofluorobenzene	94.1	80-120	%Rec	1	9/19/2018 11:16:10 PM	40423

- * Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 5 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Client: Project:		er, Miller & Ass Unit 2	sociate	es							
Sample ID	MB-40523	SampTy	pe: m l	olk	Tes	tCode: El	PA Method	300.0: Anion	s		
Client ID:	PBS	Batch I	D: 40	523	F	RunNo: 5	4364				
Prep Date:	9/23/2018	Analysis Da	te: 9/	23/2018	S	SeqNo: 1	800882	Units: mg/k	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID	LCS-40523	SampTy	pe: Ics	5	Tes	tCode: El	PA Method	300.0: Anion	s		
Client ID:	LCSS	Batch I	D: 40	523	F	RunNo: 5	4364				
Prep Date:	9/23/2018	Analysis Da	te: 9/	23/2018	S	SeqNo: 1	800883	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	94.2	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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

1809A13

25-Sep-18

WO#:

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	uder, Miller & Associates e Unit 2
Sample ID LCS-40460	SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 40460 RunNo: 54275
Prep Date: 9/19/2018	Analysis Date: 9/20/2018 SeqNo: 1797655 Units: mg/Kg
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO) 51 10 50.00 0 101 70 130
Surr: DNOP	4.4 5.000 87.3 50.6 138
Sample ID MB-40460	SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 40460 RunNo: 54275
Prep Date: 9/19/2018	Analysis Date: 9/20/2018 SeqNo: 1797656 Units: mg/Kg
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO	•
Motor Oil Range Organics (MI	
Surr: DNOP	10 10.00 101 50.6 138
Sample ID LCS-40485	SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 40485 RunNo: 54322
Prep Date: 9/20/2018	Analysis Date: 9/21/2018 SeqNo: 1798291 Units: %Rec
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	5.0 5.000 100 50.6 138
Sample ID MB-40485	SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 40485 RunNo: 54322
Prep Date: 9/20/2018	Analysis Date: 9/21/2018 SeqNo: 1798292 Units: %Rec
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	11 10.00 108 50.6 138

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 Quanitative 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

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Client:Souder,Project:Abe Un	Miller & As it 2	ssociate	es							
Sample ID MB-40423	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID: PBS	Batch	ID: 40	423	F	RunNo: 5	4264				
Prep Date: 9/18/2018	Analysis D	ate: 9/	19/2018	S	SeqNo: 1	795309	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	960		1000		96.3	15	316			
Sample ID LCS-40423	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015D: Gasc	line Rang	e	
Client ID: LCSS	Batch	ID: 40	423	F	anNo: 5	4264				
Prep Date: 9/18/2018	Analysis D	ate: 9/	19/2018	S	SeqNo: 1	795310	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	75.9	131			
Surr: BFB	1100		1000		109	15	316			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
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- P Sample pH Not In Range
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	er, Miller & A Unit 2	Associate	es							
Sample ID MB-40423	Samp	Type: MI	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: PBS	Bato	h ID: 40	423	R	anNo: 5	4264				
Prep Date: 9/18/2018	Analysis I	Date: 9/	/19/2018	S	SeqNo: 1	795348	Units: mg/k	٨g		
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	0.98		1.000		98.2	80	120			
Sample ID LCS-40423	Samp	Type: LC	s	Tes	tCode: El	tiles				
Client ID: LCSS	Bato	h ID: 40	423	R	RunNo: 5	4264				
Prep Date: 9/18/2018	Analysis I	Date: 9/	/19/2018	S	SeqNo: 1	795349	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	92.7	77.3	128			
Toluene	0.97	0.050	1.000	0	97.1	79.2	125			
Ethylbenzene	0.96	0.050	1.000	0	96.1	80.7	127			
Ethylbenzene Xylenes, Total	0.96 2.9	0.050 0.10	1.000 3.000	0 0	96.1 96.6	80.7 81.6	127 129			

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 Quanitative 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

1809A13

25-Sep-18

WO#:

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HALL ENVIRONMENTAL ANALYSIS LABORATORY	TEL: 505-345-3	ntal Analysis Labora 4901 Hawkins Albuquerque, NM 87 1975 FAX: 505-345-4 w.hallenvironmental.e	NE 105 San 107	nple Log-In Che	eck List
Client Name: SMA-CARLSBAD	Work Order Num	ber: 1809A13		RcptNo: 1	
Received By: Jazzmine Burkhead 9/	18/2018 8:40:00 /	AM	film Backhol		
Completed By: Ashley Gallegos 9/	18/2018 10:28:27	AM	AZ	-10	11
Reviewed By: ENM 9	/18/18	Labeleo	1 by!	JAB 09	118/8
Chain of Custody					
 Is Chain of Custody complete? 		Yes 🗹	No 🗌	Not Present	
2. How was the sample delivered?		<u>Courier</u>			
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 6.0°C	Yes 🗹	No 🗌		
5. Sample(s) in proper container(s)?		Yes 🗹	No 🗆		
5. Sufficient sample volume for indicated test(s)?		Yes 🔽	No 🗌		
7. Are samples (except VOA and ONG) properly pr	eserved?	Yes 🗹	No 🗌		
8. Was preservative added to bottles?		Yes	No 🗹	NA 🗔	
9. VOA vials have zero headspace?		Yes	No 🗌	No VOA Vials 🗹	
0. Were any sample containers received broken?		Yes	No 🗹 🛛		
1. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	No 🗌	# of preserved bottles checked for pH: (<2 or 12	unlese noted)
2. Are matrices correctly identified on Chain of Cus	tody?	Yes 🗹	No 🗆	Adjusted2	
3. Is it clear what analyses were requested?	·	Yes 🗹	No 🗌	TAD	
4. Were all holding times able to be met?		Yes 🗹	No 🗌	Checked by:	
(If no, notify customer for authorization.)					
pecial Handling (if applicable) 5. Was client notified of all discrepancies with this	order?	Yes 🗋	No 🗌		
Person Notified:	Date				
By Whom:	Via:	7	one 🥅 Fax	In Person	
Regarding:					
Client Instructions:					
16. Additional remarks:		·····	· · · · · · · · · · · · · · · · · · ·		
Jo. Additional remarks.					
7. <u>Cooler Information</u>	an a tha sa tarta	ange gegen om om	gen an an ai	1	
Cooler No Temp C Condition Seal I 1 1.9 Good Yes	ntact Seal No	Seal Date	Signed By		
L		I		1	

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	AALL ENVIRONMENTAL ANALYSTS LABORATOR'																					l report.
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		E E	Albuquerque, NM 87109	505-345-4107	f			(A		imə2) 0728												ו the מו
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	┙┙	www.hallenvironmental.com			Ana		(0)411			PAH's (831 9M 8 АЯОЯ						 		+			3	tta will
		L M	NE NE	-397!			(SMI:			EDB (Metho											\leq	cted da
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S day ho	د ح	,	₩ ↓				esant	on □	9-1.061			•		 						all 1115	1 Date	ries. This serve
	⊔ Rush	-	C N C			ger:	<u>ک م</u> بر	Call.	Temperature:	Preservative Type									ÿ	Z	Bull	her accredited laboratories
Turn-Around Time:	Standard	Project Name:	A A	Project #:		Project Manager:	Arth	Sampler: [] On Ice:		Container Type and #		y oz			-				V	Received by:	Received by	0
Chain-of-Custody Record							Level 4 (Full Validation)			Sample Request ID		ŚΫ								S	5	If necessary, samples submitted to Hall Environmental may be subcontracted to
ustody							□ Level					2									shed by:	Ibmitted to Hall E
of-C	-MM4		s:					□ Other		Matrix		1 20:1						 		Relinquished	Relinquished by:	V, samples st
Chain	$ \Lambda \rangle$		Mailing Address:		#	email or Fax#:	QA/QC Package: V Standard	Accreditation	🗆 EDD (Type)	Time	Mr.	13,58								Time:	Time:	If necessary
J	Client:		Mailinç		Phone #:	email (QA/QC Packs	Accreditati		Date	, ,	Arda	ר א							Date:	Date: 1771/S	`

194.96 BBL

Equation (1) Inputs	(LxW)/43560sqft		Equation (1) Assumptions	
Area	Length (ft) Width (ft)	0.5000 Acres	1 acre =43560 sqft	
Equation (2) Inputs	Ksat*27,154gal/(42gal)		Equation (2) Assumptions	
Ksat	0.6 in Inches per hour located at	https://websoilsurvey.nrcs.usda.gov	1acre/inch =27,154 gal 1bbl = 42gal	
		387.91 BBL/Acre/hr		
Equation (3)	(Eq2)X(Eq1) Area adjusted volume			
		193.96 BBI/hr max		
Equation (4) Inputs	(Eq3)X release duration (hours)+reco	overd volume	Equation (4) Assumptions	
	1 BBL		recovered fluids are not in soil solution	
	Duration (hr)			

¹ infiltratration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface: (National Soil Survey Handobook (USDA)

² (Ksat) Hydraulic Conductivity. (National Soil Survey Handobook (USDA) conductivity is often referred to as coefficient of permeability, most commonly shortened to permeability



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

OGRID:
372098
ction Number:
191181
ction Type:
[IM-SD] Well File Support Doc (ENV) (IM-BWF)

CONDITIONS

Created By		Condition Date
jharimon	None	3/22/2023

Action 191181