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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NRM2010157543
District RP	
Facility ID	
Application ID	

MRS - Closure Resubmission with Requested Additional Sampling

Release Notification

Responsible Party

Responsible Party Marathon Oil Permian LLC	OGRID 372098
Contact Name Melodie Sanjari	Contact Telephone 575-988-8753
Contact email msanjari@marathonoil.com	Incident # *(assigned by OCD)*
Contact mailing address 4111 S. Tidwell Rd., Carlsbad, NM 8220	

Location of Release Source

Latitude 32.4525604 Longitude -103.5881958
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Abe Unit #002	Site Type Oil & Gas Facility
Date Release Discovered: 4/7/2020	API# *(if applicable)* 30-25-34146

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

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (*Name:* _____)

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) 63.25	Volume Recovered (bbls) 25
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ 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
The release came from a failure in a flow line that ran across the two-tire lease road running parallel to the southern boundary of the pad. The release pooled near the source in the pasture and also over sprayed an ultra-fine mist across the containment, the western half of the pad and some pasture to the west and north of location. A vac truck was able to recovered standing fluids from around the source and the affected pasture area has been fenced off. Surface scrape as a part of initial action pending an SLO right of entry permit and arch survey.

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State of New Mexico
Oil Conservation Division

Incident ID	NRM2010157543
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? >25 bbls
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes to District I email by Melodie Sanjari on 4/8/2020	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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.

Printed Name: Melodie Sanjari Title: Environmental Professional

Signature: Melodie Sanjari Date: 4/9/2020

email: msanjari@marathonoil.com Telephone: 575-988-8753

OCD Only

Received by: Ramona Marcus Date: 40/10/2020

State of New Mexico
Oil Conservation Division

Incident ID	NRM2010157543
District RP	
Facility ID	
Application ID	

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?	178 (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
☑ Depth to water determination
☑ Determination of water sources and significant watercourses within ½-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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State of New Mexico
Oil Conservation Division

Incident ID	NRM2010157543
District RP	
Facility ID	
Application ID	

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.

Printed Name: Melodie Sanjari Title: Environmental Professional

Signature: Melodie Sanjari Date: 6/22/2020

email: msanjari@marathonoil.com Telephone: 575-988-8753

OCD Only

Received by: Cristina Eads Date: 01/05/2021

State of New Mexico
Oil Conservation Division

Incident ID	NRM2010157543
District RP	
Facility ID	
Application 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: Melodie Sanjari Title: Environmental Professional

Signature: Melodie Sanjari Date: 1/5/2021

email: msanjari@marathonoil.com Telephone: 575-988-8753

OCD Only

Received by: Cristina Eads Date: 01/05/2021

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.

Closure Approved by: Date: 03/02/2021

Printed Name: Cristina Eads Title: Environmental Specialist

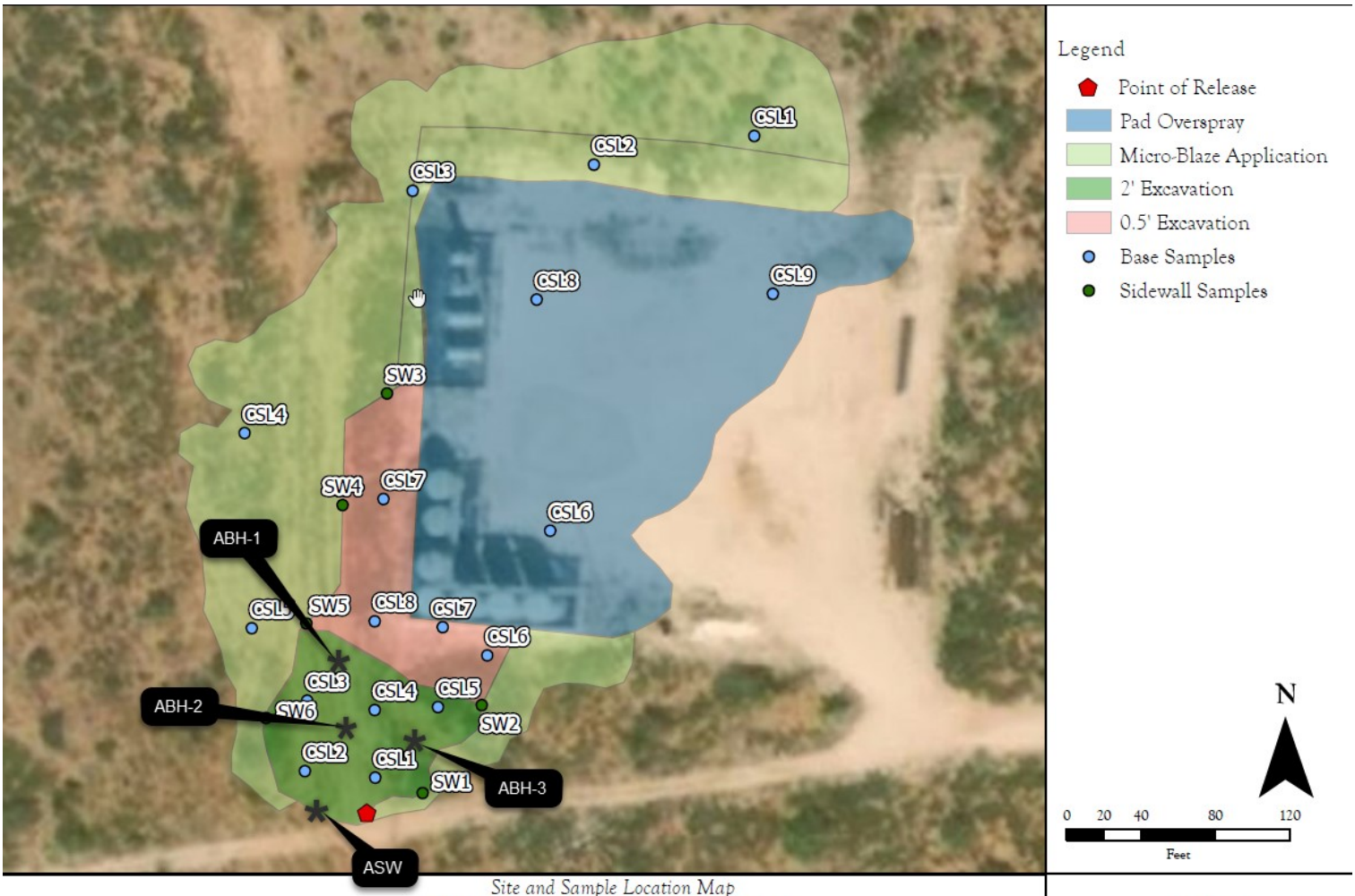
Sanjari, Melodie (MRO)

From: Sanjari, Melodie (MRO)
Sent: Monday, October 12, 2020 11:51 AM
To: Eads, Cristina, EMNRD
Cc: Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD; Venegas, Victoria, EMNRD; Johnson, Misti M. (MRO)
Subject: FW: ABE UNIT #002 @ 30-025-34146

Ms. Eads,

I have attached a map below that illustrates 4 proposed sample locations including the specific sidewall that you requested in the "Concentrated Area" (designated as ABH for "additional bottom hole" and ASW for "additional side wall").

ABH-1 @ 2' bgs
ABH-2 @ 2' bgs
ABH-3 @ 2' bgs
ASW @ surface – 2'



Site and Sample Location Map
Abe Unit #002 - Marathon Oil Permian LLC
UL: H S: 29 T: 21S R: 33E Lea County, New Mexico

Figure 3B

Table 3:
Closure Summary of Sample Results With Additional Samples

Marathon Oil, Permian LLC
Abe Unit #002 (NRM2010157543)

Sample ID	Sample Date	Depth (feet bgs)	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	GRO + DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria			50	10			1000		100	600
Pasture Overspray										
CSL1	5/22/2020	Surface	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL2	5/22/2020	Surface	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL3	5/22/2020	Surface	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL4	5/22/2020	Surface	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL5	5/22/2020	Surface	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL6	5/22/2020	Surface	<0.100	<0.0250	<20.0	30.0	30.0	<50.0	30.0	28.7
CSL7	5/22/2020	Surface	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	22.2
CSL8	5/22/2020	Surface	<0.100	<0.0250	<20.0	32.6	32.6	<50.0	32.6	21.7
CSL9	5/22/2020	0.5	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0

Sample ID	Sample Date	Depth (feet bgs)	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	GRO + DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria			50	10			1000		100	600
Concentrated Area										
CSL1	5/22/2020	2	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL2	5/22/2020	2	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL3	5/22/2020	2	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL4	5/22/2020	2	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL5	5/22/2020	2	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL6	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL7	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL8	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
ABH1	12/15/2020	2	<0.024	<0.213	<4.7	<9.0	<13.7	<45	<58.7	<60
ABH2	12/15/2020	2	<0.024	<0.212	<4.7	<9.5	<14.2	<48	<62.2	<60
ABH3	12/15/2020	2	<0.023	<0.208	<4.6	<9.4	<14.0	<47.0	<61.0	<59
SW1	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
SW2	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
SW3	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
SW4	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
SW5	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
SW6	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
SW7	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
ASW3	12/15/2020	0-2	<0.024	<0.213	<4.7	<9.5	<14.2	<47	<61.2	<60

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

December 22, 2020

Ashley Maxwell
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-8801
FAX

RE: Abe Unit 2 OrderNo.: 2012860

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 4 sample(s) on 12/17/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2012860**
Date Reported: **12/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: ABH 1-2'
Project: Abe Unit 2
Collection Date: 12/15/2020 8:06:00 AM
Lab ID: 2012860-001 **Matrix:** SOIL **Received Date:** 12/17/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	12/21/2020 7:00:08 PM	57135
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/18/2020 10:06:42 PM	57077
Surr: BFB	105	70-130		%Rec	1	12/18/2020 10:06:42 PM	57077
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	12/21/2020 9:45:13 AM	57097
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/21/2020 9:45:13 AM	57097
Surr: DNOP	117	30.4-154		%Rec	1	12/21/2020 9:45:13 AM	57097
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.024		mg/Kg	1	12/18/2020 10:06:42 PM	57077
Toluene	ND	0.047		mg/Kg	1	12/18/2020 10:06:42 PM	57077
Ethylbenzene	ND	0.047		mg/Kg	1	12/18/2020 10:06:42 PM	57077
Xylenes, Total	ND	0.095		mg/Kg	1	12/18/2020 10:06:42 PM	57077
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	12/18/2020 10:06:42 PM	57077
Surr: 4-Bromofluorobenzene	98.1	70-130		%Rec	1	12/18/2020 10:06:42 PM	57077
Surr: Dibromofluoromethane	108	70-130		%Rec	1	12/18/2020 10:06:42 PM	57077
Surr: Toluene-d8	99.3	70-130		%Rec	1	12/18/2020 10:06:42 PM	57077

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

Qualifiers:

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

Analytical Report
Lab Order **2012860**
Date Reported: **12/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: ABH 2-2'
Project: Abe Unit 2
Collection Date: 12/15/2020 8:16:00 AM
Lab ID: 2012860-002 **Matrix:** SOIL **Received Date:** 12/17/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	12/21/2020 7:12:33 PM	57135
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/18/2020 11:31:51 PM	57077
Surr: BFB	105	70-130		%Rec	1	12/18/2020 11:31:51 PM	57077
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/21/2020 10:13:26 AM	57097
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/21/2020 10:13:26 AM	57097
Surr: DNOP	113	30.4-154		%Rec	1	12/21/2020 10:13:26 AM	57097
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.024		mg/Kg	1	12/18/2020 11:31:51 PM	57077
Toluene	ND	0.047		mg/Kg	1	12/18/2020 11:31:51 PM	57077
Ethylbenzene	ND	0.047		mg/Kg	1	12/18/2020 11:31:51 PM	57077
Xylenes, Total	ND	0.094		mg/Kg	1	12/18/2020 11:31:51 PM	57077
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	12/18/2020 11:31:51 PM	57077
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/18/2020 11:31:51 PM	57077
Surr: Dibromofluoromethane	106	70-130		%Rec	1	12/18/2020 11:31:51 PM	57077
Surr: Toluene-d8	97.4	70-130		%Rec	1	12/18/2020 11:31:51 PM	57077

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

Qualifiers:

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

Analytical Report
Lab Order **2012860**
Date Reported: **12/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: ABH 3-2'
Project: Abe Unit 2
Collection Date: 12/15/2020 8:26:00 AM
Lab ID: 2012860-003 **Matrix:** SOIL **Received Date:** 12/17/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	59		mg/Kg	20	12/21/2020 7:24:57 PM	57135
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/19/2020 12:00:10 AM	57077
Surr: BFB	103	70-130		%Rec	1	12/19/2020 12:00:10 AM	57077
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/21/2020 10:22:55 AM	57097
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/21/2020 10:22:55 AM	57097
Surr: DNOP	116	30.4-154		%Rec	1	12/21/2020 10:22:55 AM	57097
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.023		mg/Kg	1	12/19/2020 12:00:10 AM	57077
Toluene	ND	0.046		mg/Kg	1	12/19/2020 12:00:10 AM	57077
Ethylbenzene	ND	0.046		mg/Kg	1	12/19/2020 12:00:10 AM	57077
Xylenes, Total	ND	0.093		mg/Kg	1	12/19/2020 12:00:10 AM	57077
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	12/19/2020 12:00:10 AM	57077
Surr: 4-Bromofluorobenzene	98.3	70-130		%Rec	1	12/19/2020 12:00:10 AM	57077
Surr: Dibromofluoromethane	107	70-130		%Rec	1	12/19/2020 12:00:10 AM	57077
Surr: Toluene-d8	98.4	70-130		%Rec	1	12/19/2020 12:00:10 AM	57077

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

Qualifiers:

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

Analytical Report
Lab Order **2012860**
Date Reported: **12/22/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: ASW 3-0-2'
Project: Abe Unit 2
Collection Date: 12/15/2020 8:36:00 AM
Lab ID: 2012860-004 **Matrix:** SOIL **Received Date:** 12/17/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	12/21/2020 7:37:22 PM	57135
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/19/2020 12:28:33 AM	57077
Surr: BFB	105	70-130		%Rec	1	12/19/2020 12:28:33 AM	57077
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/21/2020 10:32:22 AM	57097
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/21/2020 10:32:22 AM	57097
Surr: DNOP	105	30.4-154		%Rec	1	12/21/2020 10:32:22 AM	57097
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.024		mg/Kg	1	12/19/2020 12:28:33 AM	57077
Toluene	ND	0.047		mg/Kg	1	12/19/2020 12:28:33 AM	57077
Ethylbenzene	ND	0.047		mg/Kg	1	12/19/2020 12:28:33 AM	57077
Xylenes, Total	ND	0.095		mg/Kg	1	12/19/2020 12:28:33 AM	57077
Surr: 1,2-Dichloroethane-d4	97.8	70-130		%Rec	1	12/19/2020 12:28:33 AM	57077
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	1	12/19/2020 12:28:33 AM	57077
Surr: Dibromofluoromethane	107	70-130		%Rec	1	12/19/2020 12:28:33 AM	57077
Surr: Toluene-d8	96.3	70-130		%Rec	1	12/19/2020 12:28:33 AM	57077

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2012860**

22-Dec-20

Client: Souder, Miller & Associates

Project: Abe Unit 2

Sample ID: **MB-57135**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **57135**	RunNo: **74164**							
Prep Date: **12/21/2020**	Analysis Date: **12/21/2020**	SeqNo: **2617341**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-57135**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **57135**	RunNo: **74164**							
Prep Date: **12/21/2020**	Analysis Date: **12/21/2020**	SeqNo: **2617342**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.3	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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2012860**

22-Dec-20

Client: Souder, Miller & Associates

Project: Abe Unit 2

Sample ID: **2012860-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **ABH 1-2'** Batch ID: **57097** RunNo: **74169**

Prep Date: **12/18/2020** Analysis Date: **12/21/2020** SeqNo: **2617487** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.0	45.09	3.256	94.5	15	184			
Surr: DNOP	5.4		4.509		119	30.4	154			

Sample ID: **2012860-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **ABH 1-2'** Batch ID: **57097** RunNo: **74169**

Prep Date: **12/18/2020** Analysis Date: **12/21/2020** SeqNo: **2617488** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.3	46.30	3.256	92.4	15	184	0.424	23.9	
Surr: DNOP	5.5		4.630		120	30.4	154	0	0	

Sample ID: **LCS-57097** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **57097** RunNo: **74169**

Prep Date: **12/18/2020** Analysis Date: **12/21/2020** SeqNo: **2617542** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.4	70	130			
Surr: DNOP	5.5		5.000		110	30.4	154			

Sample ID: **MB-57097** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **57097** RunNo: **74169**

Prep Date: **12/18/2020** Analysis Date: **12/21/2020** SeqNo: **2617545** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		110	30.4	154			

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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2012860**

22-Dec-20

Client: Souder, Miller & Associates

Project: Abe Unit 2

Sample ID: **mb-57077** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **PBS** Batch ID: **57077** RunNo: **74129**

Prep Date: **12/17/2020** Analysis Date: **12/18/2020** SeqNo: **2615828** Units: **mg/Kg**

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: 1,2-Dichloroethane-d4	0.52		0.5000		105	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.55		0.5000		110	70	130			
Surr: Toluene-d8	0.50		0.5000		99.0	70	130			

Sample ID: **lcs-57077** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **BatchQC** Batch ID: **57077** RunNo: **74129**

Prep Date: **12/17/2020** Analysis Date: **12/18/2020** SeqNo: **2615829** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	105	80	120			
Toluene	1.0	0.050	1.000	0	103	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.3	0.10	3.000	0	109	80	120			
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		106	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.8	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: Toluene-d8	0.49		0.5000		97.7	70	130			

Sample ID: **2012860-001ams** SampType: **MS4** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **ABH 1-2'** Batch ID: **57077** RunNo: **74129**

Prep Date: **12/17/2020** Analysis Date: **12/18/2020** SeqNo: **2615831** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9425	0	111	71.1	115			
Toluene	1.0	0.047	0.9425	0	111	79.6	132			
Ethylbenzene	1.0	0.047	0.9425	0	110	83.8	134			
Xylenes, Total	3.3	0.094	2.828	0	118	82.4	132			
Surr: 1,2-Dichloroethane-d4	0.50		0.4713		105	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.4713		100	70	130			
Surr: Dibromofluoromethane	0.52		0.4713		109	70	130			
Surr: Toluene-d8	0.47		0.4713		101	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2012860**

22-Dec-20

Client: Souder, Miller & Associates

Project: Abe Unit 2

Sample ID: **2012860-001amsd** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **ABH 1-2'** Batch ID: **57077** RunNo: **74129**

Prep Date: **12/17/2020** Analysis Date: **12/18/2020** SeqNo: **2615832** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9662	0	107	71.1	115	1.26	20	
Toluene	1.1	0.048	0.9662	0	109	79.6	132	0.471	20	
Ethylbenzene	1.1	0.048	0.9662	0	109	83.8	134	2.22	20	
Xylenes, Total	3.3	0.097	2.899	0	114	82.4	132	1.05	20	
Surr: 1,2-Dichloroethane-d4	0.48		0.4831		100	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.50		0.4831		103	70	130	0	0	
Surr: Dibromofluoromethane	0.52		0.4831		107	70	130	0	0	
Surr: Toluene-d8	0.48		0.4831		98.6	70	130	0	0	

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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2012860**

22-Dec-20

Client: Souder, Miller & Associates

Project: Abe Unit 2

Sample ID: **mb-57077** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **PBS** Batch ID: **57077** RunNo: **74129**

Prep Date: **12/17/2020** Analysis Date: **12/18/2020** SeqNo: **2615842** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	530		500.0		106	70	130			

Sample ID: **lcs-57077** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **LCSS** Batch ID: **57077** RunNo: **74129**

Prep Date: **12/17/2020** Analysis Date: **12/18/2020** SeqNo: **2615843** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.4	70	130			
Surr: BFB	520		500.0		104	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Souder, Miller & Associates

Work Order Number: 2012860

RcptNo: 1

Received By: Erin Melendrez 12/17/2020 8:30:00 AM

Completed By: Erin Melendrez 12/17/2020 8:41:52 AM

Reviewed By: SGL 12/17/20
SGL ~~reho~~ 12/17/20
SGL 12/17/20

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH:
(<2 or >12 unless noted)
Adjusted?
Checked by: JR 12/17/20

Special Handling (if applicable)

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

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

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.9	Good				

Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 5 day TAT

Project Name: Abe Unit #2

Project #: CL. 20.00916

Project Manager: Ashley Maxwell

Sampler: ZAA

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.8+0.1(CF)=2.9 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2012860	(BTEX) MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/15/20	8:06	Soil	ABH 1-2'	4oz	ice	-001	X	X					X			
"	8:16	"	ABH 2-2'	"	"	-002	"	"					"			
"	8:26	"	ABH 3-2'	"	"	-003	"	"					"			
"	8:36	"	ASW 3-0-2'	"	"	-004	"	"					"			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
12/16/2020	8:11				12/16/20	811
12/16/20	1900			courier	12/17/20	0830

Remarks: Direct Bill Marathon Oil

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

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

June 19, 2020

#5E28980-BG6

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

SUBJECT: Remediation Closure Report for the Abe Unit #002 Release (NRM2010157543), Lea County, New Mexico

To Whom it May Concern:

On behalf of Marathon Oil, Permian LLC, 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 #002 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 #002	Company	Marathon Oil, Permian LLC
API Number	30-025-34146	Location	32.4525604 -103.5881958
Incident Number	NRM2010157543		
Estimated Date of Release	April 7, 2020	Date Reported to NMOCD	April 8, 2020
Land Owner	State Land	Reported To	NMOCD District I, NMSLO
Source of Release	Polyethylene flow line failure		
Released Volume	63.25 bbls	Released Material	Crude Oil
Recovered Volume	25 bbls	Net Release	38.25 bbls
NMOCD Closure Criteria	>100 feet to groundwater		
SMA Response Dates	4/8/2020,4/16/2020, 5/20-5/22/2020		

1.0 Background

On April 7, 2020, a release was discovered at the Abe Unit #002 site due to a failure in the polyethylene flow line. Initial response activities were conducted by Marathon Oil, Permian LLC, and included source elimination, containment and the recovery of 25 bbl of standing fluids. Figure 1 illustrates the vicinity and site location, Figure 2 illustrates the release location. The C-141 form is included in Appendix A.

2.0 Site Information and Closure Criteria

The Abe Unit #002 is located approximately 32 miles southeast from Hobbs, New Mexico on State land at an elevation of approximately 3707 feet above mean sea level (amsl).

Based upon New Mexico Office of the State Engineer (Appendix B), depth to groundwater in the area is estimated to be 198 feet below grade surface (bgs). There are no known water sources within ½-mile of the location, according to the New Mexico Office of the State Engineer (NMOSE) online water well database. However, there is a NMOSE registered water well located 0.60 miles to the northeast of the release with a depth to groundwater recorded at 178 feet bgs. Additionally, there are two United States Geological Survey (USGS) water wells with groundwater data. USGS 322702103344001 water well is located 0.60 miles to the northeast of the release with a depth to groundwater recorded at 179 feet bgs and USGS 322702103344002 water well, located 0.62 miles to the northeast, has a recorded depth to groundwater at 179 feet bgs. Based on this data, the depth to groundwater at the site is estimated to be 198 feet bgs. See Table 4 for Calculation, Appendix B for data.

The nearest significant watercourse is unnamed draw, located approximately 5,351 feet to the southeast of the release. Figure 2 illustrates the site with 200 and 300-foot radii to indicate that it does not lie within a sensitive area as described in 19.15.29.12.C(4) NMAC.

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 and Remediation Activities

On April 8, 2020, SMA personnel arrived on site in response to the release associated with Abe Unit #002. SMA performed an initial site visitation to map the release area, the point of release, and collected soil samples around the pasture overspray area. Soil samples were field-screened for chloride using an electrical conductivity (EC) meter. A total of two sample locations from the engineered pad (Pad Overspray L1-L2) and seven (7) sample locations from the pasture overspray (Pasture Overspray L1-L7) were investigated using a hand auger, to depths up to 0.5 feet bgs. A minimum of two samples were collected at each sampling location and field-screened using the method above. A total of 18 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. Initial analytical results are summarized in Table 3. Results indicated the overspray did meet NMOCD Closure Criteria.

On April 16, 2020 SMA returned to the site after receiving Right-of-Entry permit approval from the New Mexico State Land Office to perform further delineation and surface scrape of the concentrated area in the pasture. A total of nine (9) sample locations (L1-L9) from the pasture concentrated area, off the southwest corner of the pad, were investigated using a hand-auger to depths up to four (4) feet bgs. Soil samples were field-screened utilizing an electrical conductivity meter (EC) for chlorides and a calibrated MiniRAE 2000 photoionization detector (PID) equipped with a 10.6 eV lamp for hydrocarbon impacts. A total of forty-one (41) 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.

Initial analytical results are summarized in Table 3A. Results indicated that the pasture concentrated area was impacted to a maximum depth of two (2) feet bgs.

Between May 20-22, 2020, SMA returned to the site to guide excavation of contaminated soil. SMA guided the excavation activities by collecting soil samples for field screening. Samples were screened for chloride using an electrical conductivity (EC) meter. The walls and base were excavated until field screening results indicated that the NMOCD Closure Criteria would be met. NMOCD was notified on May 19, 2020 that closure samples were expected to be collected in two (2) business days.

On May 22, 2020, SMA conducted confirmation sampling of the walls and base of the excavation of the pasture concentrated area. The area around sample locations (CSL1-CSL5) was excavated to a depth of two (2) feet bgs, the area around sample locations (CSL6-CSL8) was excavated to a depth of half-foot bgs. The pasture overspray area around sample locations (CSL1-CSL5, CSL7) was not excavated as NMOCD Closure Criteria was met from previous delineation event. However, SMA did apply Micro-Blaze to the pasture to ensure full re-vegetation and rehabilitation (See SDS in Appendix E). The pad overspray area around sample locations (CSL6, CSL8, CSL9) was also not excavated as NMOCD Closure Criteria was met in the previous delineation event. Confirmation samples were comprised of five-point composites of the base of the pasture overspray (CSL1-CSL5, CSL7), pad overspray (CSL6, CSL8, CSL9), pasture concentrated area (CSL1-CSL8) and walls (SW1-SW6). The confirmation samples were collected from within the excavated areas in accordance with a systematic sampling approach, as defined by SW846 using Gilbert, 1987 equation 5.2.3 for Stratified Random Sampling (Appendix C). This systematic method meets the EPAs data quality assessment standards (DQA) for composite sampling

A total of twenty-four (24) 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. Laboratory samples were collected in accordance with the sampling protocol included in Appendix D. Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Envirotech Analytical Laboratory in Farmington, New Mexico (Appendix F).

Figure 3B shows the extent of the excavation and confirmation sample locations. All laboratory results are summarized in Table 3B. Laboratory reports are included in Appendix F.

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 Environmental Solutions near Hobbs, NM, an NMOCD permitted disposal facility.

SMA recommends no further action, and requests closure on behalf of Marathon for this incident.

4.0 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 Ashley Maxwell or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Reviewed by:

Ashley Maxwell
Project Manager

Shawna Chubbuck
Senior Scientist

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Well Head Protection Map
Figure 2: Surface Water Radius Map
Figure 3A: Initial Site and Sample Location Map
Figure 3B: Excavation and Confirmation Sample Map

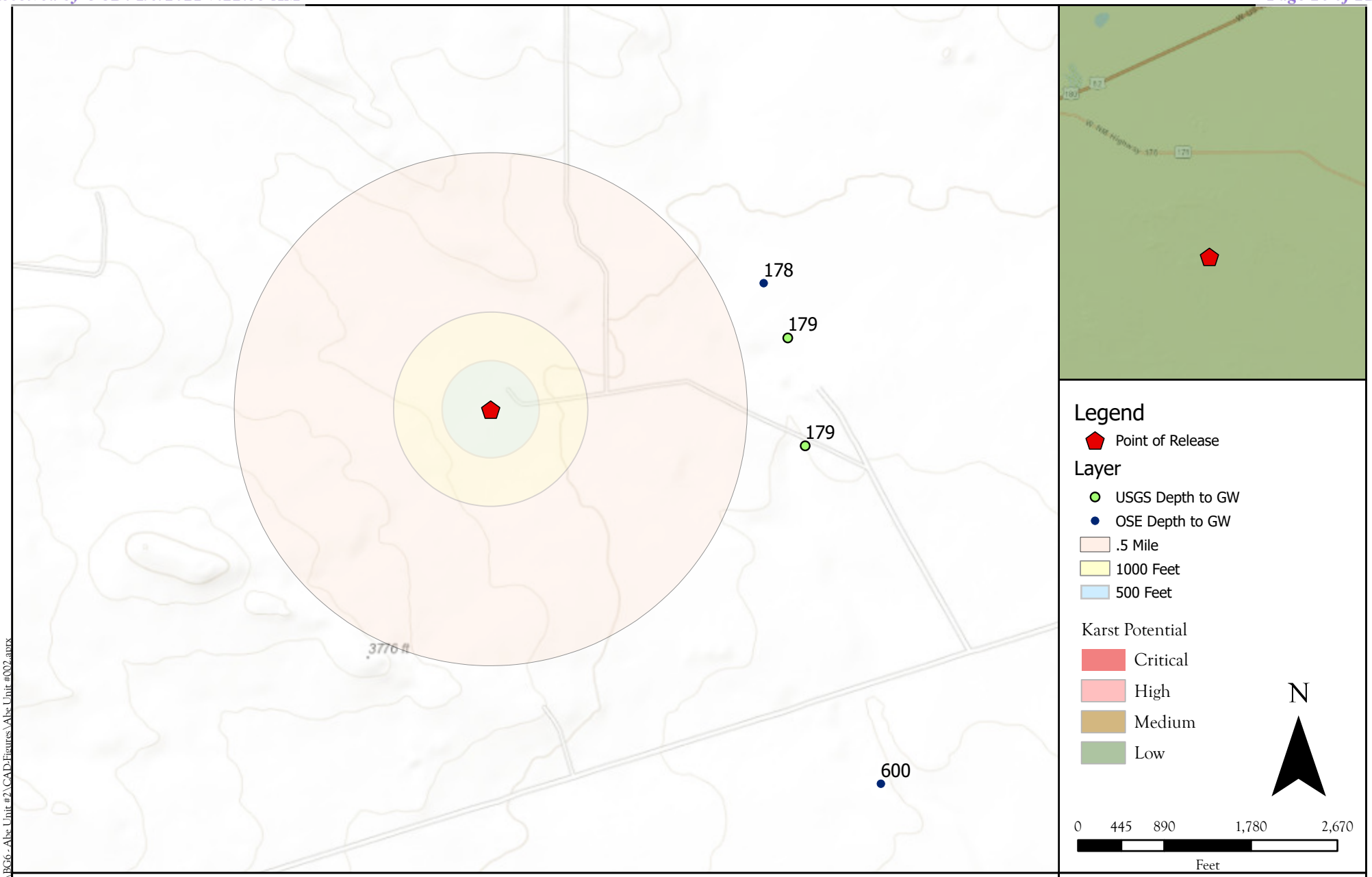
Tables:

Table 2: NMOCD Closure Criteria Justification
Table 3: Summary of Sample Results
Table 4: Potential Depth to Groundwater Calculation

Appendices:

Appendix A: Form C141
Appendix B: NMOSE Wells Report
Appendix C: VSP Sampling Protocol
Appendix D: Photo Log & Field Notes
Appendix E: Micro-Blaze Safety Data Sheet
Appendix F: Laboratory Analytical Reports

FIGURES



Site Map
Abe Unit #002- Marathon Oil, Permian LLC
UL: H S: 29 T: 21S R: 33E, Lea County, New Mexico

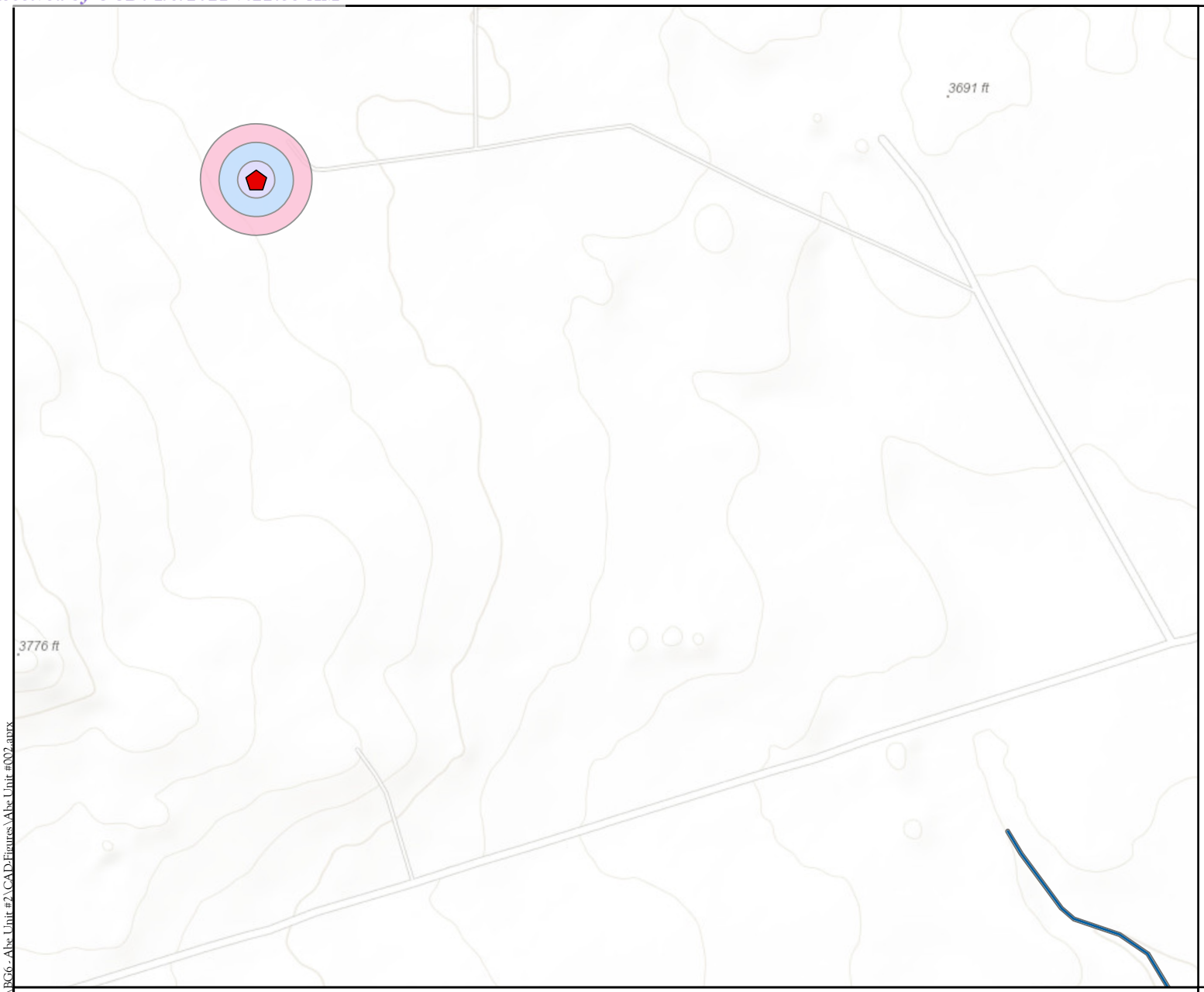
Figure 1

P:\5-Marathon MSA 2020 (5F28980)\BG6 - Abe Unit #2\CAD Figures\Abe Unit #002.mxrx
Date Saved: 6/10/2020

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

Drawn Lynn A. Acosta
Date 6/17/2020
Checked
Approved

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



Legend

Buffer Distance

- 300 Feet
- 200 Feet
- 100 Feet
- Springs & Seeps
- Streams & Canals
- Rivers
- NM Wetlands
- Lakes & Playas
- FEMA Flood Zones 2011
- Point of Release

N

0 262.5 525 1,050 1,575

Feet

Surface Water Protection Map
Abe Unit #002 - Marathon Oil, Permian LLC
UL: H S: 29 T: 21S R: 33E, Lea County, New Mexico

Figure 2

P:\5-Marathon MSA 2020 (5F28980)\BG6 - Abe Unit #2\CAD\Figures\Abe Unit #002.mxd
Date Saved: 6/10/2020

Revisions
By: Date: Descr:
By: Date: Descr:

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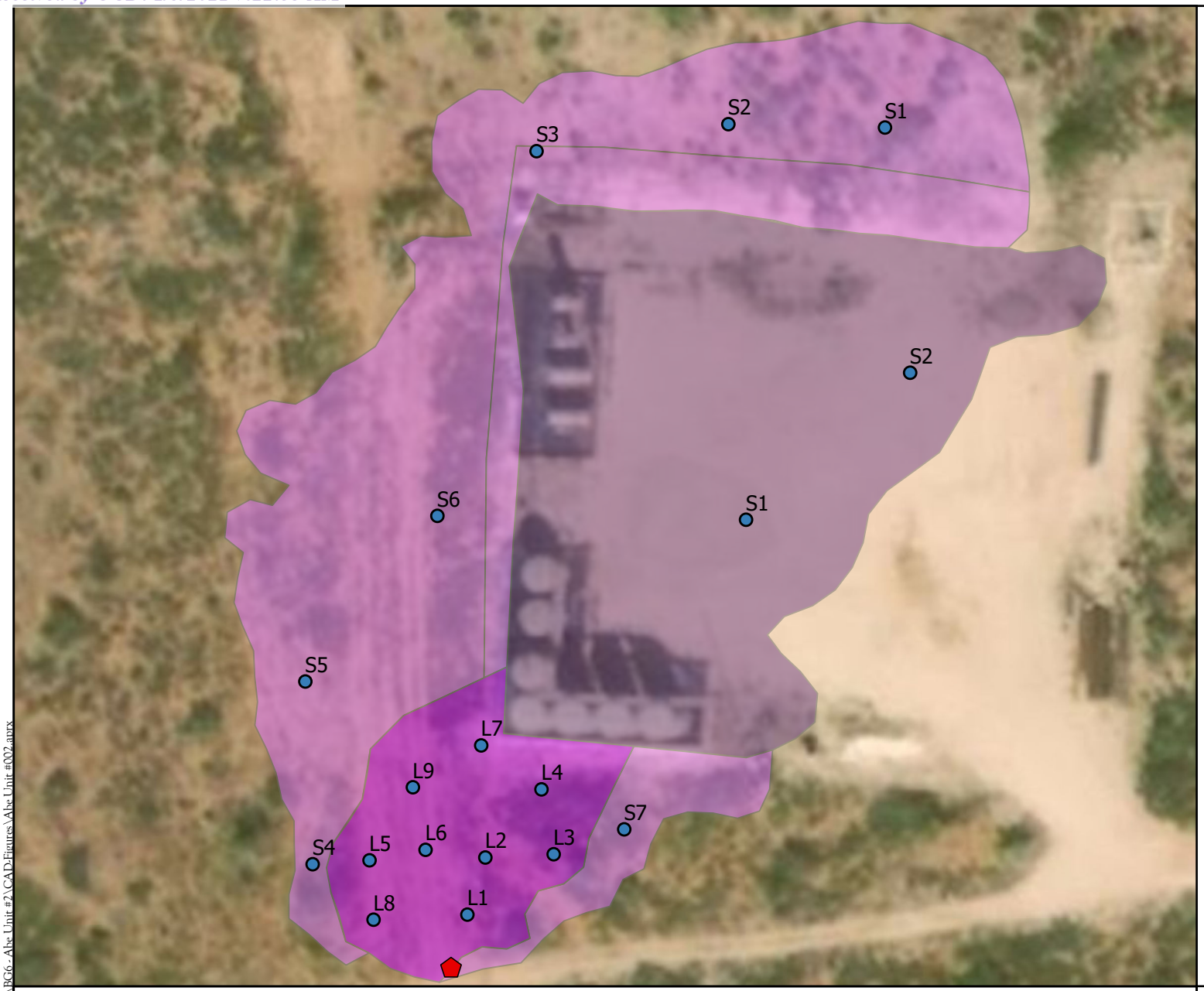

Legend

- Point of Release
- Soil Sample
- Pad Overspray
- Pasture Overspray
- Concentrated Area

N

0 20 40 80 120

Feet

Site and Sample Location Map
Abe Unit #002 - Marathon Oil
UL: H S: 29 T: 21S R: 33E Lea County, New Mexico

Figure 3A

P:\5-Marathon MSA 2020 (5F289801)\RG6 - Abe Unit #2\CAD\Figures\Abe Unit #002.mxd
Date Saved: 4/26/2020

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By: Date: Descr:
By: Date: Descr:

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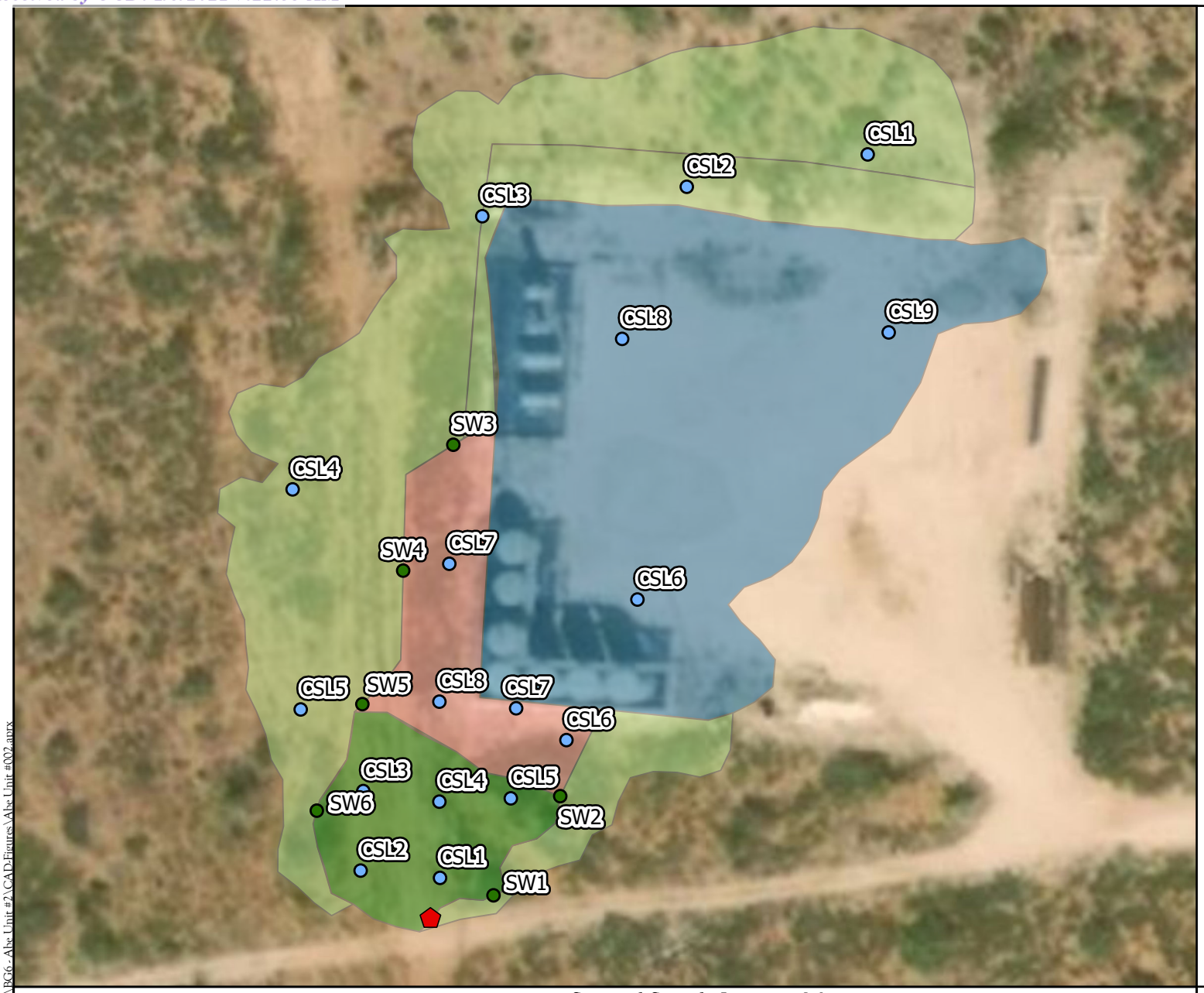

Legend

- Point of Release
- Pad Overspray
- Micro-Blaze Application
- 2' Excavation
- 0.5' Excavation
- Base Samples
- Sidewall Samples

N

0 20 40 80 120

Feet

Site and Sample Location Map
Abe Unit #002 - Marathon Oil Permian LLC
UL: H S: 29 T: 21S R: 33E Lea County, New Mexico

Figure 3B

P:\5-Marathon MSA 2020 (5F289801)\RG6 - Abe Unit #2\CAD\Figures\Abe Unit #002.mxd
Date Saved: 6/9/2020

Revisions
By: Date: Descr:
By: Date: Descr:

Drawn Lynn A. Acosta
Date 6/9/2020
Checked
Approved

SMA
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Carlsbad, New Mexico 88221
(575) 689-7040
Serving the Southwest & Rocky Mountains

TABLES

Table 2:
NMOCD Closure Criteria

Marathon Oil, Permian LLC
Abe Unit #002
NRM2010157543

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	198	New Mexico Office of the State Engineer, USGS
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	N/A	United States Geological Survery Topo Map
Hortizontal Distance to Nearest Significant Watercourse (ft)	5,351	United States Geological Survery Topo Map

Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)						
Depth to Groundwater		**Closure Criteria (units in mg/kg)**				
		Chloride *numerical limit or background, whichever is greater	**TPH**	**GRO + DRO**	**BTEX**	**Benzene**
< 50' BGS		600	100		50	10
51' to 100'		10000	2500	1000	50	10
>100'	X	20000	2500	1000	50	10
Surface Water	**yes or no**	**if yes, then**				
<300' from continuously flowing watercourse or other significant watercourse?	No	600	100		50	10
<200' from lakebed, sinkhole or playa lake?	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						
<300' from an occupied permanent residence, school, hospital, institution or church?	No					
within incorporated municipal boundaries or within a defined municipal fresh water well field?	No					
<100' from wetland?	No					
within area overlying a subsurface mine	No					
within an unstable area?	No					
within a 100-year floodplain?	No					

SMA #

Table 3:
Initial Summary of Sample Results

Marathon Oil, Permian LLC
Abe Unit #002 (NRM2010157543)

Sample ID	Sample Date	Depth (feet bgs)	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	GRO + DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria			50	10			1000		100	600
Overspray										
Pad-L1	4/8/2020	surface	<0.225	<0.025	<5.0	28	28	<50	28	62
		0.5'	-	-	-	-	-	-	-	62
Pad-L2		surface	<0.222	<0.025	<4.9	21	21	<50	21	<60
		0.5	-	-	-	-	-	-	-	<60
Pasture-L1		Surface	<0.220	<0.024	<4.9	<9.9	<14.8	<49	<63.8	<60
		0.5	-	-	-	-	-	-	-	<60
Pasture-L2		Surface	<0.219	<0.024	<4.9	<9.9	<15	<50	<65	<60
		0.5	-	-	-	-	-	-	-	<60
Pasture-L3		Surface	<0.220	<0.024	<4.9	<9.9	<15	<50	<65	<60
		0.5	-	-	-	-	-	-	-	<60
Pasture-L4		Surface	<0.219	<0.024	<4.9	60	60	<48	60	<60
		0.5	-	-	-	-	-	-	-	<60
Pasture-L5		Surface	<0.220	<0.024	<4.9	16	16	<49	16	<59
		0.5	-	-	-	-	-	-	-	<60
Pasture-L6		Surface	<0.220	<0.024	<4.9	2200	2200	1900	4100	220
		0.5	-	-	-	-	-	-	-	<60
Pasture-L7		Surface	<0.221	<0.025	<4.9	<9.4	<14.3	<47	<61.3	<60
		0.5	-	-	-	-	-	-	-	<60

Table 3:
Initial Summary of Sample Results

Marathon Oil, Permian LLC
Abe Unit #002 (NRM2010157543)

Sample ID	Sample Date	Depth (feet bgs)	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	GRO + DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria			50	10			1000		100	600
Concentrated										
L1	4/16/2020	0.5	39.29	0.19	530	9900	10430	3500	13930	3800
		1	<0.221	<0.025	<4.9	15	15	<44	15	930
		2	<0.225	<0.025	<5.0	130	130	70	200	73
		3	<0.220	<0.024	<4.9	32	32	<49	32	-
		4	<0.217	<0.024	<4.8	14	14	<48	14	-
L2		0.5	<1.12	<0.12	<25	560	560	290	850	3600
		1	<0.222	<0.025	<4.9	41	41	<41	41	590
		2	<0.224	<0.025	<5.0	<9.6	<14.6	<48	<62.6	<60
		3	<0.224	<0.025	<5.0	<8.6	<13.6	<43	<56.6	-
L3		0.5	<1.12	<0.12	<25	1000	1000	440	1440	510
		1	<0.225	<0.025	<5.0	<9.2	<14.2	<46	<60.2	-
		2	<0.224	<0.025	<5.0	<9.5	<14.5	<47	<61.5	<59
		3	<0.220	<0.025	<4.9	<8.9	<13.8	<45	<58.8	-
L4		0.5	<1.11	<0.12	<25	990	990	490	1480	1500
		1	<1.12	<0.12	<25	120	120	64	184	73
		2	<0.221	<0.025	<4.9	28	28	<50	28	-
		3	<1.11	<0.12	<25	130	130	71	201	-
L5		0.5	1.7	<0.25	100	5800	5900	2500	8400	750
		1	<1.11	<0.12	<25	190	190	100	290	<59
		2	<0.222	<0.025	<4.9	28	28	<44	28	-
		3	<0.217	<0.024	<4.8	44	44	<50	44	-
L6		0.5	<1.08	<0.12	<24	830	830	350	1180	2700
		1	<1.12	<0.12	<25	190	190	96	286	88
		2	<1.12	<0.12	<25	260	260	140	400	-
		3	<0.224	<0.025	<5.0	38	38	<45	38	-
		4	<0.222	<0.025	<4.9	12	12	<46	12	-
L7		0.5	2.2	<0.25	160	3400	3560	1500	5060	1100
		1	<1.11	<0.12	<25	180	180	120	300	<59
		2	<0.222	<0.025	<4.9	20	20	<48	20	-
		3	<0.225	<0.025	<5.0	38	38	<48	38	-
		4	<0.220	<0.024	<4.9	18	18	<46	18	-
L8		0.5	15.42	<0.25	420	8000	8420	3800	12220	1700
		1	<1.12	<0.12	<25	190	190	110	300	<60
		2	<1.12	<0.12	<25	270	270	190	460	-
		3	<0.221	<0.025	<4.9	24	24	<47	24	-
		4	<1.12	<0.12	<25	140	140	99	239	-
L9		0.5	73.5	0.5	1700	15000	16700	5700	22400	4000
		1	<0.45	<0.050	<10	110	110	60	170	5900
		2	<0.225	<0.025	<5.0	<9.5	<14.5	<47	<71	180
		3	<0.222	<0.025	<4.9	70	70	62	132	-
		4	<0.220	<0.024	<4.9	12	12	<50	12	-

"--" = Not Analyzed

Table 3:
Closure Summary of Sample Results

Marathon Oil, Permian LLC
Abe Unit #002 (NRM2010157543)

Sample ID	Sample Date	Depth (feet bgs)	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	GRO + DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria			50	10			1000		100	600
Pasture Overspray										
CSL1	5/22/2020	Surface	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL2	5/22/2020	Surface	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL3	5/22/2020	Surface	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL4	5/22/2020	Surface	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL5	5/22/2020	Surface	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL6	5/22/2020	Surface	<0.100	<0.0250	<20.0	30.0	30.0	<50.0	30.0	28.7
CSL7	5/22/2020	Surface	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	22.2
CSL8	5/22/2020	Surface	<0.100	<0.0250	<20.0	32.6	32.6	<50.0	32.6	21.7
CSL9	5/22/2020	0.5	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0

Sample ID	Sample Date	Depth (feet bgs)	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	GRO + DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria			50	10			1000		100	600
Concentrated Area										
CSL1	5/22/2020	2	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL2	5/22/2020	2	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL3	5/22/2020	2	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL4	5/22/2020	2	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL5	5/22/2020	2	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL6	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL7	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
CSL8	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
SW1	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
SW2	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
SW3	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
SW4	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
SW5	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
SW6	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0
SW7	5/22/2020	1	<0.100	<0.0250	<20.0	<25.0	<45.0	<50.0	<95.0	<20.0

Table 4:
Potential Depth to Groundwater

Marathon Oil, Permian LLC
Abe Unit #002
NRM2010157543

Depth To Groundwater			Calculations	
Location Elevation (ft):	3707			
Well Name	**Well Elevation (ft)**	**Well Depth to GW**	**Groundwater Elevation**	**Depth to GW at Location**
CP 00601 POD1	3694	178	3516	191
USGS 322702103344001	3688	179	3509	198
USGS 322702103344002	3680	179	3501	206
				3707
Total # of Wells	3			595

Potential Depth to GW at Release:	**198.333333333333**

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NRM2010157543
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Marathon Oil Permian LLC	OGRID 372098
Contact Name Melodie Sanjari	Contact Telephone 575-988-8753
Contact email msanjari@marathonoil.com	Incident # *(assigned by OCD)*
Contact mailing address 4111 S. Tidwell Rd., Carlsbad, NM 8220	

Location of Release Source

Latitude 32.4525604 Longitude -103.5881958
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Abe Unit #002	Site Type Oil & Gas Facility
Date Release Discovered: 4/7/2020	API# *(if applicable)* 30-25-34146

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

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (*Name:* _____)

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) 63.25	Volume Recovered (bbls) 25
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ 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
The release came from a failure in a flow line that ran across the two-tire lease road running parallel to the southern boundary of the pad. The release pooled near the source in the pasture and also over sprayed an ultra-fine mist across the containment, the western half of the pad and some pasture to the west and north of location. A vac truck was able to recovered standing fluids from around the source and the affected pasture area has been fenced off. Surface scrape as a part of initial action pending an SLO right of entry permit and arch survey.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NRM2010157543
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? >25 bbls
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes to District I email by Melodie Sanjari on 4/8/2020	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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.

Printed Name: Melodie Sanjari Title: Environmental Professional

Signature: Melodie Sanjari Date: 4/9/2020

email: msanjari@marathonoil.com Telephone: 575-988-8753

OCD Only

Received by: Ramona Marcus Date: 40/10/2020

State of New Mexico
Oil Conservation Division

Incident ID	NRM2010157543
District RP	
Facility ID	
Application ID	

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?	178 (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
☑ Depth to water determination
☑ Determination of water sources and significant watercourses within ½-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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NRM2010157543
District RP	
Facility ID	
Application ID	

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.

Printed Name: Melodie Sanjari Title: Environmental Professional

Signature: Melodie Sanjari Date: 6/22/2020

email: msanjari@marathonoil.com Telephone: 575-988-8753

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NRM2010157543
District RP	
Facility ID	
Application 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: Melodie Sanjari Title: Environmental Professional

Signature: Melodie Sanjari Date: 6/22/2020

email: msanjari@marathonoil.com Telephone: 575-988-8753

OCD Only

Received by: _____ Date: _____

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.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

NRM2010157543

Spill Calculation Tool

Marathon Oil

Standing Liquid Inputs:

	Length (ft.)	Width (ft.)	Avg. Liquid Depth (in.)	% Oil	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)
Rectangle Area #1	5	5	2		0.74	0.74	0.00
Rectangle Area #2	5	5	2		0.74	0.74	0.00
Rectangle Area #3	5	5	2		0.74	0.74	0.00
Rectangle Area #4	5	5	2		0.74	0.74	0.00
Rectangle Area #5	5	5	2		0.74	0.74	0.00
Rectangle Area #6	5	5	2		0.74	0.74	0.00
Rectangle Area #7					0.00	0.00	0.00
Rectangle Area #8					0.00	0.00	0.00
				Liquid Volume:	**4.45**	**4.45**	**0.00**

Saturated Soil Inputs: Soil Type: Gravel Loam

		Area (ft.)	Avg. Saturated Depth (in.)	% Oil	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)
Rectangle Area #1		13131	1	0%	27.29	27.29	0.00
Rectangle Area #2		36018	0.25	0%	18.71	18.71	0.00
Rectangle Area #3		42687	0.1	0%	8.87	8.87	0.00
Rectangle Area #4		75735	0.025	0%	3.93	3.93	0.00
Rectangle Area #5				0%	0.00	0.00	0.00
Rectangle Area #6				0%	0.00	0.00	0.00
Rectangle Area #7					0.00	0.00	0.00
Rectangle Area #8					0.00	0.00	0.00
				Saturated Volume	**58.80**	**58.80**	**0.00**

Volume Recovered *and not included in Standing Liquid Inputs* :

% Oil	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)

	Total Volume (bbls)	Water Volume (bbls)	Oil Volume (bbls)
Total Spill Volume (bbls):	**63.25**	**63.25**	**0.00**

G & L TRUCKING, LLC

1009 W. Broadway • Hobbs, New Mexico 88240
Phone (575) 390-0581 • Fax (575) 391-0503

Customer Bill of Lading & Delivery Ticket

№ 72033

Date Order Submitted: 04.07.20

Driver: Alonso Madrid

Customer Name: Marathon Oil

Customer P.O.#:

Location/Lease or Well #: ABE 2H 3H CTB

Top Gauge Bottom Gauge

COMMENTS: Clean up spill
Pick up 25 BBLS
Hauled it to
R360 and Jet
out Trailer

HOURS	RATE	SU

NRM2010157543

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 Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 00601 POD1		CP	LE	2	1	28	21S	33E		633502	3591791*	945	223		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 632647 **Northing (Y):** 3591388 **Radius:** 1600

***UTM location was derived from PLSS - see Help**

6/10/20 10:21 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Revised December 1975

IMPORTANT — READ INSTRUCTIONS ON BACK BEFORE FILLING OUT THIS FORM.

80237

Declaration of Owner of Underground Water Right

'79 APR 20 PM 3 01

CAPITAN BASIN
BASIN NAME

Declaration No. CP-601 Date received April 17, 1979

STATE ENGINEER OFFICE
SANTA FE, N.M. 87501

STATEMENT

1. Name of Declarant THE MERCHANT LIVESTOCK COMPANY
   Mailing Address P.O. Box 548 Carlsbad
   County of Eddy, State of New Mexico
2. Source of water supply shallow
   (artesian or shallow water aquifer)
3. Describe well location under one of the following subheadings:
   a. ____ ¼ NE ¼ NW ¼ of Sec. 28 Twp. 21S Rge. 33-E N.M.P.M., in Lea County.
   b. Tract No. ____ of Map No. ____ of the ____.
   c. X = ____ feet, Y = ____ feet, N. M. Coordinate System ____ Zone in the ____ Grant.
   On land owned by ____.
4. Description of well: date drilled 1952 driller ____ depth 223' feet.
   outside diameter of casing 6 5/8 inches; original capacity ____ gal. per min.; present capacity 3 gal. per min.; pumping lift ____ feet; static water level 178 feet (above) (below) land surface;
   make and type of pump ____
   make, type, horsepower, etc., of power plant ____
   Fractional or percentage interest claimed in well 100%
5. Quantity of water appropriated and beneficially used ____ (acre feet per annum) up to 3
   for stock water purposes.
6. Acreage actually irrigated ____ acres, located and described as follows (describe only lands actually irrigated):

Subdivision	Sec.	Twp.	Range	Acres Irrigated	Owner
			stock only		The Merchant Livestock Co.

(Note: location of well and acreage actually irrigated must be shown on plat on reverse side.)

'79 APR 17 AM 9 01
STATE ENGINEER OFFICE
ROSWELL, N. M.

7. Water was first applied to beneficial use ____ month ____ day 1952 year and since that time has been used fully and continuously on all of the above described lands or for the above described purposes except as follows: ____
8. Additional statements or explanations ____
   name of well = Standard

I, J. D. Merchant, Jr., President being first duly sworn upon my oath, depose and say that the above is a full and complete statement prepared in accordance with the instructions on the reverse side of this form and submitted in evidence of ownership of a valid underground water right, that I have carefully read each and all of the items contained therein and that the same are true to the best of my knowledge and belief.

THE MERCHANT LIVESTOCK CO. declarant.
by: J. D. Merchant, Jr. President

Subscribed and sworn to before me this 12th day of April, A.D. 1979

My commission expires March 24, 1980 Notary Public

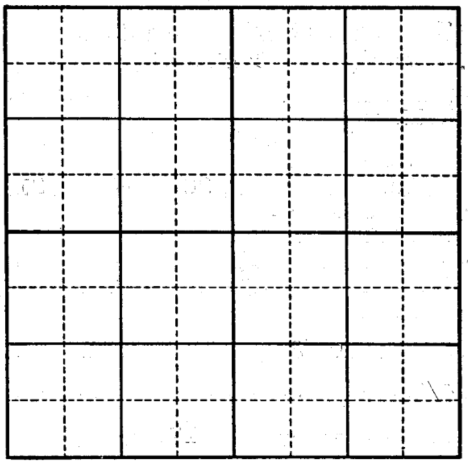
FILED

UNDER NEW MEXICO LAW A DECLARATION IS ONLY A STATEMENT OF DECLARANT'S CLAIM. ACCEPTANCE FOR FILING DOES NOT CONSTITUTE APPROVAL OR REJECTION OF THE CLAIM.

5163798

Locate well and areas actually irrigated as accurately as possible on following plat:

Section (s) ....., Township ....., Range ..... N. M. P. M.



INSTRUCTIONS

Declaration shall be executed (preferably typewritten) in triplicate and must be accompanied by a $1.00 filing fee. Each of triplicate copies must be properly signed and attested.

A separate declaration must be filed for each well in use.

All blanks shall be filled out fully. Required information which cannot be sworn to by declarant shall be supplied by affidavit of person or persons familiar with the facts and shall be submitted herewith.

Secs. 1-3. Complete all blanks.

Sec. 4. Fill out all blanks applicable as fully as possible.

Sec. 5. Irrigation use shall be stated in acre feet of water per acre per year applied on the land. If used for domestic, municipal. or other purposes, state total quantity in acre feet used annually.

Sec. 6. Describe only the acreage actually irrigated. When necessary to clearly define irrigated acreages, describe to nearest 2½ acre subdivision. If located on unsurveyed lands. describe by legal supdivision "as projected" from the nearest government survey corners, or describe by metes and bounds and tie survey to some permanent, easily-located natural object.

Sec. 7. Explain and give dates as nearly as possible of any years when all or part of acreage claimed was not irrigated.

Sec. 8. If well irrigates or supplies supplemental water to any other land than that described above, or if land is also irrigated from any other source, explain under this section. Give any other data necessary to fully describe water right.

If additional space is necessary, use a separate sheet or sheets and attach securely hereto.

SF

EC

'79 APR 20 PM 3 00

STATE ENGINEER OFFICE
SANTA FE, N.M. 87501

April 17, 1979

Files: CP-584; CP-585; CP-586; CP-587; CP-588;
CP-589; CP-590; CP-591; CP-592; CP-593;
CP-594; CP-595; CP-596; CP-597; CP-598;
CP-599; CP-600; CP-601; CP-602

The Merchant Livestock Company
P. O. Box 548
Carlsbad, NM 88220

Gentlemen:

Enclosed are your copies of Declarations of Owner of Underground Water Right as numbered above, which have been filed for record in the office of the State Engineer.

Please refer to each individual number in all future correspondence concerning these declarations.

The filing of these declarations does not indicate affirmation or rejection of the statements contained therein.

Yours very truly,

J. C. Groseclose
Basin Supervisor

JCG/fh
Encls.
cc: Santa Fe

563298

National Water Information System: Web Interface

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- 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

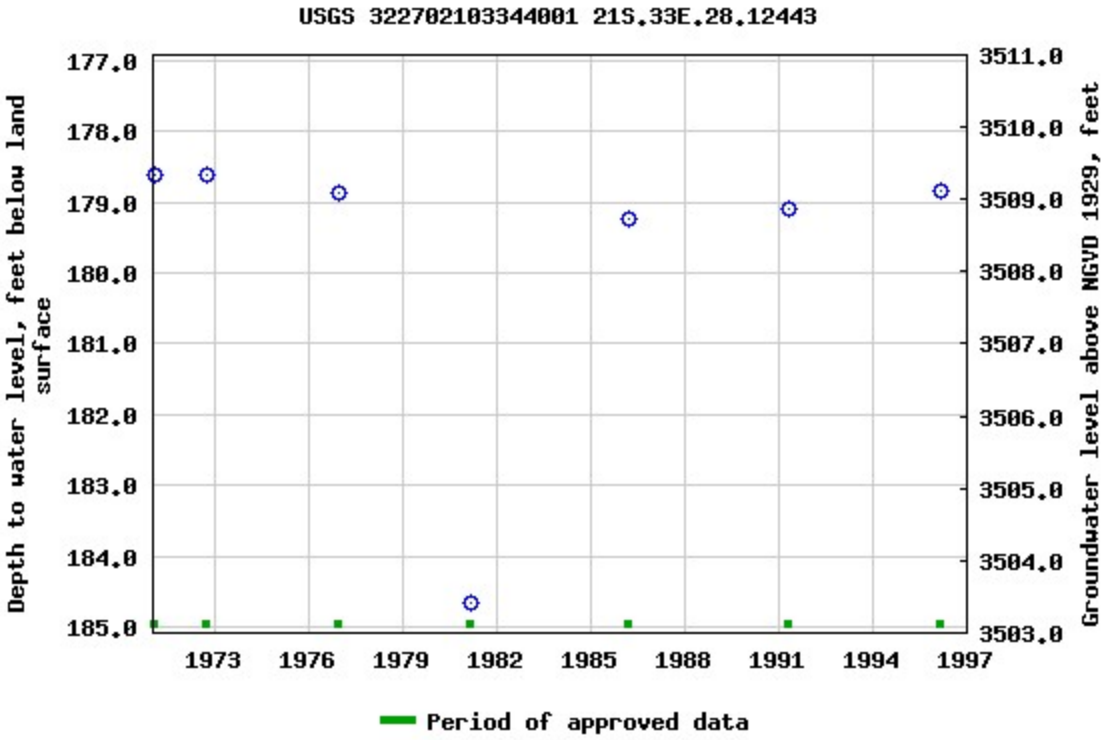
USGS 322702103344001 21S.33E.28.12443

Available data for this site | Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
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



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
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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: 2020-06-10 12:06:26 EDT
0.64 0.58 nadww01

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- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 322702103344002

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

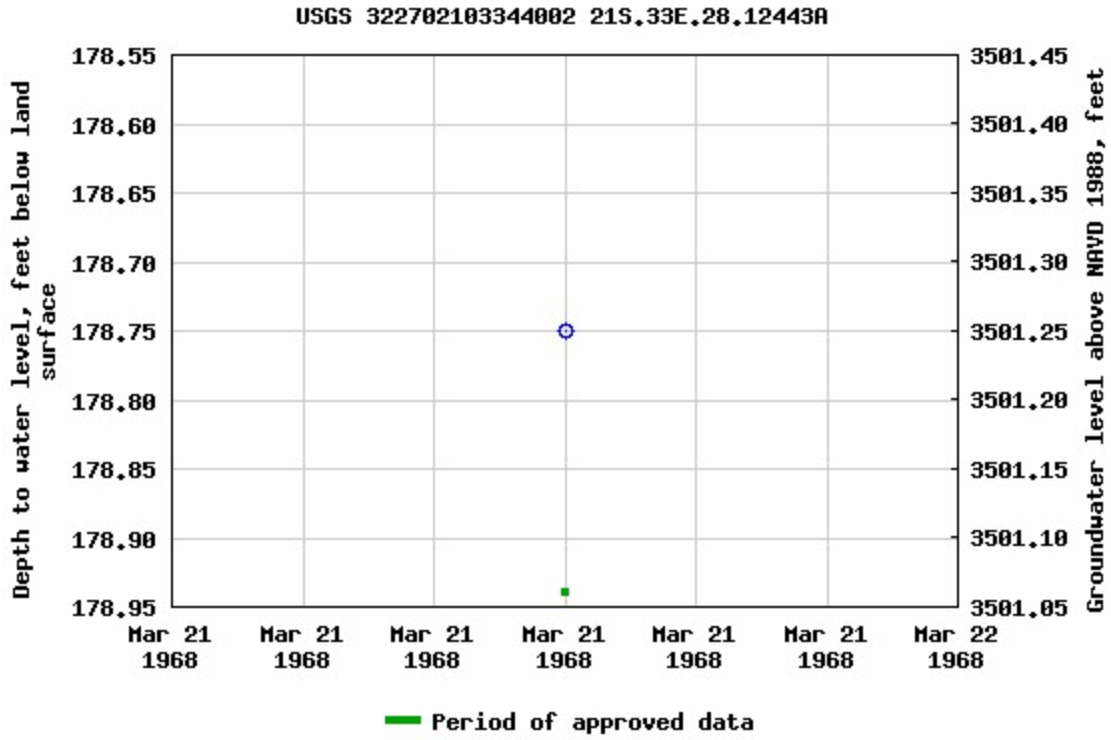
USGS 322702103344002 21S.33E.28.12443A

Available data for this site Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°27'02", Longitude 103°34'40" NAD27
Land-surface elevation 3,680 feet above NAVD88
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Output formats

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



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
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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: 2020-06-10 12:08:25 EDT
0.66 0.6 nadww01

APPENDIX C
VSP SAMPLING PROTOCOL

VSP Sample Design Report for Using Stratified Sampling to Estimate the Population Proportion

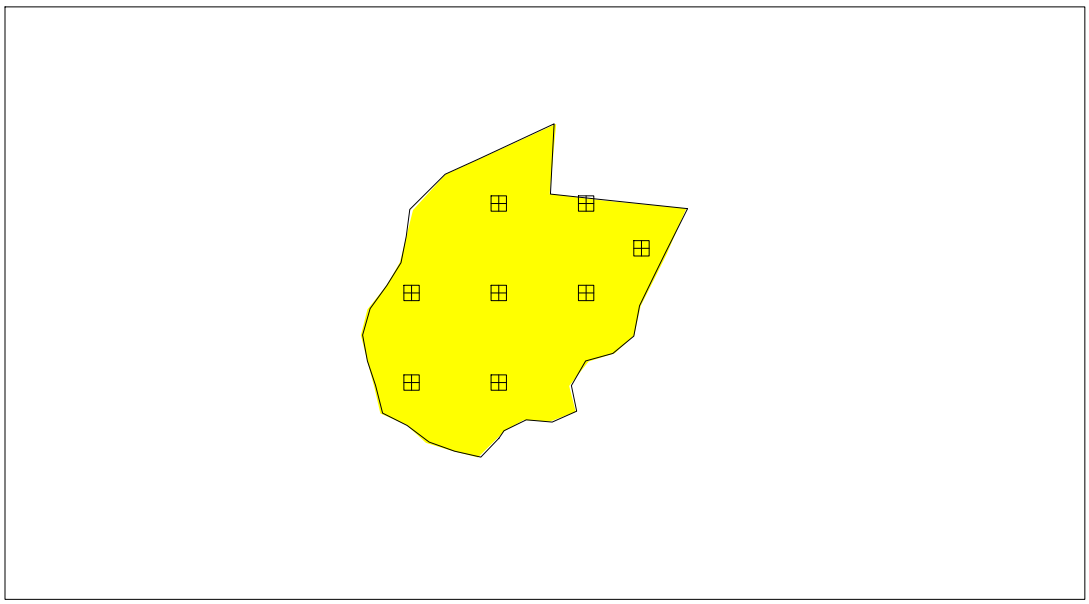
Summary

This report summarizes the stratified sampling design used, associated statistical assumptions, as well as general guidelines for conducting post-sampling data analysis. Sampling plan components presented here include how many sampling locations to choose and where within the sampling area to collect those samples. The type of medium to sample (i.e., soil, groundwater, etc.) and how to analyze the samples (in-situ, fixed laboratory, etc.) are addressed in other sections of the sampling plan. It is important to note that the decision for sample size calculation is determined for the combined strata, rather than any individual strata.

The following table summarizes the proportion stratified sampling design developed. A figure that shows sampling locations in the field and a table that lists sampling location coordinates are also provided below.

SUMMARY OF SAMPLING DESIGN	
Primary Objective of Design	Estimate the population proportion of all strata combined
Criteria for Determining Total Number of Samples	Achieve pre-specified precision of the estimated proportion for specified stratum costs, but no restriction on total costs
Sample Placement (Location) in the Field	Adaptive grid sampling with a rectangular pattern
Formula for calculating number of sampling locations	From Gilbert (1987, page 51)
Method for calculating number of sampling locations in each stratum	Optimal Allocation
Calculated total number of samples	8
Stratum 1	8
Total area of all strata	1473.79 m^2

[a] Including measurement analyses and fixed overhead costs. See the Cost of Sampling section for an explanation of the costs presented here.



Area: Area 1

X Coord	Y Coord	Label	Value	Type	Historical	Sample Area
-11531460.2026	3822770.2648			Adaptive Grid		
-11531446.8027	3822770.2648			Adaptive Grid		
-11531460.2026	3822784.0130			Adaptive Grid		
-11531446.8027	3822784.0130			Adaptive Grid		
-11531433.4028	3822784.0130			Adaptive Grid		
-11531446.8027	3822797.7611			Adaptive Grid		
-11531433.4028	3822797.7611			Adaptive Grid		
-11531424.8843	3822790.8787			Adaptive Grid		

Primary Sampling Objective
The primary purpose of sampling at this site is to estimate the proportion for the entire site, i.e., for all strata combined, such that the estimated proportion has the minimum possible standard deviation under the condition that the sampling and measurement costs cannot exceed a specified amount. Preexisting information was used to divide the site into 1 non-overlapping strata that were expected to be more homogeneous internally than for the entire site (all strata combined). The expected variability of values within each stratum was estimated or approximated, and the stratum weights, W_h, were determined so that the total number of samples could be allocated appropriately among the strata.

Number of Total Samples: Calculation Equation and Inputs
The total number of samples is computed to achieve the pre-specified precision of the estimated population proportion for specified stratum costs, but no restriction on total costs. *Note that the calculation is for the total number of samples, i.e., for combined strata, rather than individual strata.*

The formula used to calculate the total number of samples is:

$$n = \frac{\left(\sum_{h=1}^{L} W_h \sqrt{P_h(1-P_h)}\sqrt{c_h}\right)\sum_{h=1}^{L} \frac{W_h \sqrt{P_h(1-P_h)}}{\sqrt{c_h}}}{V + {}^{1}\!/\!_{N}\sum_{h=1}^{L} W_h P_h(1-P_h)}$$

where
L is the number of strata, $h=1,2,...,L$,
P_h is the estimated proportion of measurements in stratum h,
$W_h = N_h / N$ is the weight associated with stratum h,
N_h is the total number of possible sampling locations (units) in stratum h,
N is the total number of possible units in all strata combined, $N = \sum_{h=1}^{L} N_h$
V is the pre-specified variance or precision, and
c_h is the cost of collecting and measuring a sample in stratum h.

The values of these inputs that result in the calculated number of sampling locations are:

Parameter	Stratum
	1
P_h	0.2
W_h	1473.79

Parameter	Input Value

V 1

Allocation of Samples to Strata
The total number of samples is allocated to the individual strata on an optimal basis using the formula:

$$n_h = n \frac{N_h \sqrt{P_h(1-P_h)} / \sqrt{c_h}}{\sum_{h=1}^{L} N_h \sqrt{P_h(1-P_h)} / \sqrt{c_h}}$$

where
n_h is the number of samples allocated to stratum h,
L is the number of strata,
N_h is the total number of units in stratum h,
P_h is the proportion in stratum h,
c_h is the cost per population unit in stratum h.

n is the total number of units sampled in all strata, $n = \sum_{h=1}^{L} n_h$

Using this formula, the number of samples allocated to each stratum is:

Stratum	Number of Samples
1	8
Total Samples	8

Method for Determining Sampling Locations
Five methods for determining sample locations are provided in VSP: 1) simple random sampling, 2) random sampling within grids, 3) systematic sampling with a random start, 4) systematic sampling with a fixed start and 5) adaptive grid sampling. One may use a different method for each stratum, based on the conceptual site model and decision to be made for a given stratum. For this site, sample locations were chosen using adaptive grid sampling in each stratum.

Locating the sample points using an adaptive grid sampling method ensures spatial coverage of the site. Statistical analyses of systematically collected data are valid because a random start to the grid is used. One disadvantage of collecting samples on a systematic grid is that spatial variability or patterns of data may not be discovered if the grid spacing is large relative to the spatial patterns. Also, if a spatial pattern of population values corresponds to the systematic spacing of sample locations, then the estimated proportion may be very biased.

Statistical Assumptions
The assumptions associated with the formulas for computing the number of samples are:
1. The estimated stratum proportions, P_h, are reasonable and representative of the stratum populations being sampled.
2. The sampling locations are selected using simple random sampling.
3. The stratum costs, C_h, and the fixed cost C_0, are accurate.

The first and third assumptions will be assessed in a post data collection analysis. The second assumption, although not strictly valid for strata where systematic grid sampling was used rather than simple random sampling, is not expected to significantly affect conclusions of the study because (1) the gridded sample locations were selected based on a random start and (2) any patterns of contamination in the field that may exist are not expected to coincide with the regularity of the grid sampling pattern.

Stratum	Samples	Collection Cost Per Sample	Analytic Cost Per Sample	Total Cost
1	8	$100.00	$400.00	$4,000.00
Total Samples:	**8**		**Subtotal:**	**$4,000.00**
			Fixed Startup Cost:	$1,000.00
			Grand Total:	**$5,000.00**

Recommended Data Analysis Activities

Post data collection activities generally follow those outlined in EPA's Guidance for Data Quality Assessment (EPA, 2000). The data analysts will become familiar with the context of the problem and goals for data collection and assessment. The data will be verified and validated before being subjected to statistical or other analyses. Graphical and analytical tools will be used to verify to the extent possible the assumptions of any statistical analyses that are performed as well as to achieve a general understanding of the data. The data will be assessed to determine whether they are adequate in both quality and quantity to support the primary objective of sampling.

Estimates for the proportion of the population values will be calculated using the formulas appropriate for stratified sampling; these formulas are found in EPA QA/G-5S (EPA, 2001). Results of the exploratory and quantitative assessments of the data will be reported, along with conclusions that may be supported by them.

VSP Sample Design Report for Using Stratified Sampling to Estimate the Population Proportion

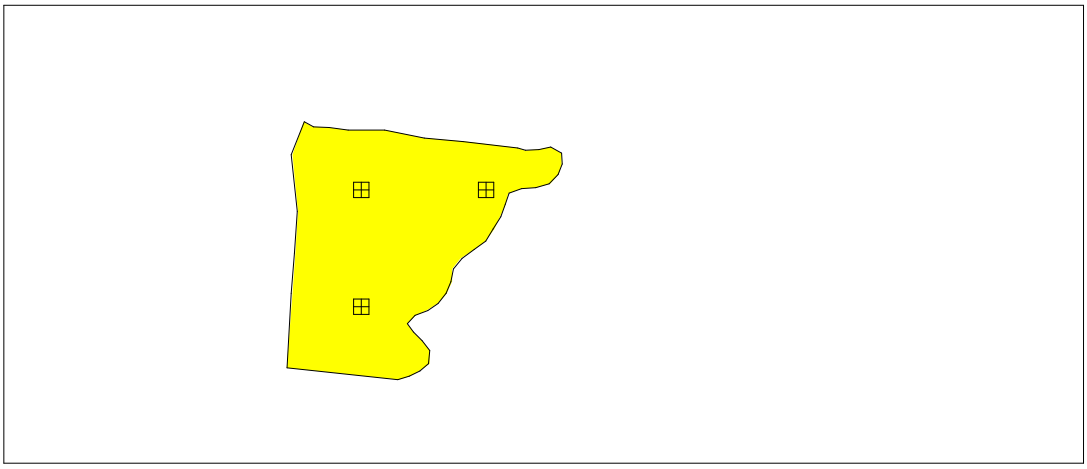
Summary

This report summarizes the stratified sampling design used, associated statistical assumptions, as well as general guidelines for conducting post-sampling data analysis. Sampling plan components presented here include how many sampling locations to choose and where within the sampling area to collect those samples. The type of medium to sample (i.e., soil, groundwater, etc.) and how to analyze the samples (in-situ, fixed laboratory, etc.) are addressed in other sections of the sampling plan. It is important to note that the decision for sample size calculation is determined for the combined strata, rather than any individual strata.

The following table summarizes the proportion stratified sampling design developed. A figure that shows sampling locations in the field and a table that lists sampling location coordinates are also provided below.

SUMMARY OF SAMPLING DESIGN	
Primary Objective of Design	Estimate the population proportion of all strata combined
Criteria for Determining Total Number of Samples	Predetermined Number
Sample Placement (Location) in the Field	Adaptive grid sampling with a rectangular pattern
Formula for calculating number of sampling locations	From Gilbert (1987, page 51)
Method for calculating number of sampling locations in each stratum	Optimal Allocation
Calculated total number of samples	3
Stratum 1	3
Total area of all strata	5568.65 m^2

[a] Including measurement analyses and fixed overhead costs. See the Cost of Sampling section for an explanation of the costs presented here.



Area: Area 1						
X Coord	**Y Coord**	**Label**	**Value**	**Type**	**Historical**	**Sample Area**
-11531412.3945	3822821.0014			Adaptive Grid		
-11531412.3945	3822862.7123			Adaptive Grid		

-11531367.8926	3822862.7123			Adaptive Grid		

Primary Sampling Objective
The primary purpose of sampling at this site is to estimate the proportion for the entire site, i.e., for all strata combined, such that the estimated proportion has the minimum possible standard deviation under the condition that the sampling and measurement costs cannot exceed a specified amount. Preexisting information was used to divide the site into 1 non-overlapping strata that were expected to be more homogeneous internally than for the entire site (all strata combined). The expected variability of values within each stratum was estimated or approximated, and the stratum weights, W_h, were determined so that the total number of samples could be allocated appropriately among the strata.

Number of Total Samples: Calculation Equation and Inputs
The total number of samples, *n*, has been provided by the user. *It is left to the professional judgment of the user to know if this number is adequate for the intended goal of the sampling design.*

Parameter	Input Value
n	3

Allocation of Samples to Strata
The total number of samples is allocated to the individual strata on an optimal basis using the formula:

$$n_h = n \frac{N_h \sqrt{P_h(1-P_h)} / \sqrt{c_h}}{\sum_{h=1}^{L} N_h \sqrt{P_h(1-P_h)} / \sqrt{c_h}}$$

where
n_h is the number of samples allocated to stratum *h*,
L is the number of strata,
N_h is the total number of units in stratum *h*,
P_h is the proportion in stratum *h*,
c_h is the cost per population unit in stratum *h*.

n is the total number of units sampled in all strata, $n = \sum_{h=1}^{L} n_h$

Using this formula, the number of samples allocated to each stratum is:

Stratum	Number of Samples
1	3
Total Samples	3

Method for Determining Sampling Locations
Five methods for determining sample locations are provided in VSP: 1) simple random sampling, 2) random sampling within grids, 3) systematic sampling with a random start, 4) systematic sampling with a fixed start and 5) adaptive grid sampling. One may use a different method for each stratum, based on the conceptual site model and decision to be made for a given stratum. For this site, sample locations were chosen using adaptive grid sampling in each stratum.

Locating the sample points using an adaptive grid sampling method ensures spatial coverage of the site. Statistical analyses of systematically collected data are valid because a random start to the grid is used. One disadvantage of collecting samples on a systematic grid is that spatial variability or patterns of data may not be discovered if the grid spacing is large relative to the spatial patterns. Also, if a spatial pattern of population values corresponds to the systematic spacing of sample locations, then the estimated proportion may be very biased.

Statistical Assumptions
The assumptions associated with the formulas for computing the number of samples are:
1. The estimated stratum proportions, P_h, are reasonable and representative of the stratum populations being

sampled.
2. The sampling locations are selected using simple random sampling.
3. The stratum costs, C_h, and the fixed cost C_0, are accurate.

The first and third assumptions will be assessed in a post data collection analysis. The second assumption, although not strictly valid for strata where systematic grid sampling was used rather than simple random sampling, is not expected to significantly affect conclusions of the study because (1) the gridded sample locations were selected based on a random start and (2) any patterns of contamination in the field that may exist are not expected to coincide with the regularity of the grid sampling pattern.

Recommended Data Analysis Activities

Post data collection activities generally follow those outlined in EPA's Guidance for Data Quality Assessment (EPA, 2000). The data analysts will become familiar with the context of the problem and goals for data collection and assessment. The data will be verified and validated before being subjected to statistical or other analyses. Graphical and analytical tools will be used to verify to the extent possible the assumptions of any statistical analyses that are performed as well as to achieve a general understanding of the data. The data will be assessed to determine whether they are adequate in both quality and quantity to support the primary objective of sampling.

Estimates for the proportion of the population values will be calculated using the formulas appropriate for stratified sampling; these formulas are found in EPA QA/G-5S (EPA, 2001). Results of the exploratory and quantitative assessments of the data will be reported, along with conclusions that may be supported by them.

VSP Sample Design Report for Using Stratified Sampling to Estimate the Population Proportion

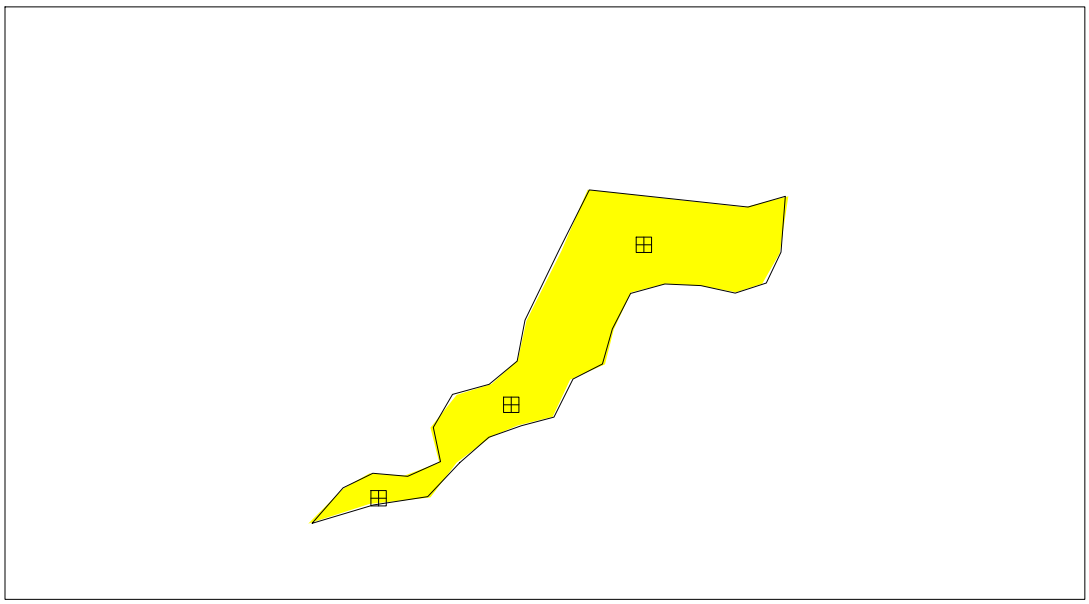
Summary

This report summarizes the stratified sampling design used, associated statistical assumptions, as well as general guidelines for conducting post-sampling data analysis. Sampling plan components presented here include how many sampling locations to choose and where within the sampling area to collect those samples. The type of medium to sample (i.e., soil, groundwater, etc.) and how to analyze the samples (in-situ, fixed laboratory, etc.) are addressed in other sections of the sampling plan. It is important to note that the decision for sample size calculation is determined for the combined strata, rather than any individual strata.

The following table summarizes the proportion stratified sampling design developed. A figure that shows sampling locations in the field and a table that lists sampling location coordinates are also provided below.

SUMMARY OF SAMPLING DESIGN	
Primary Objective of Design	Estimate the population proportion of all strata combined
Criteria for Determining Total Number of Samples	Achieve pre-specified precision of the estimated proportion for specified stratum costs, but no restriction on total costs
Sample Placement (Location) in the Field	Adaptive grid sampling with a rectangular pattern
Formula for calculating number of sampling locations	From Gilbert (1987, page 51)
Method for calculating number of sampling locations in each stratum	Optimal Allocation
Calculated total number of samples	3
Stratum 1	3
Total area of all strata	487.54 m^2

[a] Including measurement analyses and fixed overhead costs. See the Cost of Sampling section for an explanation of the costs presented here.



Area: Area 1

X Coord	Y Coord	Label	Value	Type	Historical	Ref/Surv	Sample Area
-11531441.9305	3822761.6720			Adaptive Grid		Undefined	
-11531426.7396	3822772.3700			Adaptive Grid		Undefined	
-11531411.5487	3822790.6905			Adaptive Grid		Undefined	

Primary Sampling Objective
The primary purpose of sampling at this site is to estimate the proportion for the entire site, i.e., for all strata combined, such that the estimated proportion has the minimum possible standard deviation under the condition that the sampling and measurement costs cannot exceed a specified amount. Preexisting information was used to divide the site into 1 non-overlapping strata that were expected to be more homogeneous internally than for the entire site (all strata combined). The expected variability of values within each stratum was estimated or approximated, and the stratum weights, W_h, were determined so that the total number of samples could be allocated appropriately among the strata.

Number of Total Samples: Calculation Equation and Inputs
The total number of samples is computed to achieve the pre-specified precision of the estimated population proportion for specified stratum costs, but no restriction on total costs. *Note that the calculation is for the total number of samples, i.e., for combined strata, rather than individual strata.*

The formula used to calculate the total number of samples is:

$$n = \frac{\left(\sum_{h=1}^{L} W_h \sqrt{P_h(1-P_h)}\sqrt{c_h}\right)\sum_{h=1}^{L} \frac{W_h \sqrt{P_h(1-P_h)}}{\sqrt{c_h}}}{V + {}^{1}\!/\!_{N}\sum_{h=1}^{L} W_h P_h (1-P_h)}$$

where
L is the number of strata, $h=1,2,...,L$,
P_h is the estimated proportion of measurements in stratum h,
$W_h = N_h / N$ is the weight associated with stratum h,
N_h is the total number of possible sampling locations (units) in stratum h,
N is the total number of possible units in all strata combined, $N = \sum_{h=1}^{L} N_h$
V is the pre-specified variance or precision, and
c_h is the cost of collecting and measuring a sample in stratum h.

The values of these inputs that result in the calculated number of sampling locations are:

Parameter	Stratum
	1
P_h	0.2
C_h	$500.00
W_h	487.539

Parameter	Input Value
V	1

Allocation of Samples to Strata
The total number of samples is allocated to the individual strata on an optimal basis using the formula:

$$n_h = n \frac{N_h \sqrt{P_h(1-P_h)} / \sqrt{c_h}}{\sum_{h=1}^{L} N_h \sqrt{P_h(1-P_h)} / \sqrt{c_h}}$$

where

n_h is the number of samples allocated to stratum h,
L is the number of strata,
N_h is the total number of units in stratum h,
P_h is the proportion in stratum h,
c_h is the cost per population unit in stratum h.

n is the total number of units sampled in all strata, $n = \sum_{h=1}^{L} n_h$

Using this formula, the number of samples allocated to each stratum is:

Stratum	Number of Samples
1	3
Total Samples	3

Method for Determining Sampling Locations

Five methods for determining sample locations are provided in VSP: 1) simple random sampling, 2) random sampling within grids, 3) systematic sampling with a random start, 4) systematic sampling with a fixed start and 5) adaptive grid sampling. One may use a different method for each stratum, based on the conceptual site model and decision to be made for a given stratum. For this site, sample locations were chosen using adaptive grid sampling in each stratum.

Locating the sample points using an adaptive grid sampling method ensures spatial coverage of the site. Statistical analyses of systematically collected data are valid because a random start to the grid is used. One disadvantage of collecting samples on a systematic grid is that spatial variability or patterns of data may not be discovered if the grid spacing is large relative to the spatial patterns. Also, if a spatial pattern of population values corresponds to the systematic spacing of sample locations, then the estimated proportion may be very biased.

Statistical Assumptions

The assumptions associated with the formulas for computing the number of samples are:

1. The estimated stratum proportions, P_h, are reasonable and representative of the stratum populations being sampled.
2. The sampling locations are selected using simple random sampling.
3. The stratum costs, C_h, and the fixed cost C_0, are accurate.

The first and third assumptions will be assessed in a post data collection analysis. The second assumption, although not strictly valid for strata where systematic grid sampling was used rather than simple random sampling, is not expected to significantly affect conclusions of the study because (1) the gridded sample locations were selected based on a random start and (2) any patterns of contamination in the field that may exist are not expected to coincide with the regularity of the grid sampling pattern.

Stratum	Samples	Collection Cost Per Sample	Analytic Cost Per Sample	Total Cost
1	3	$100.00	$400.00	$1,500.00
Total Samples:	**3**		**Subtotal:**	**$1,500.00**
			Fixed Startup Cost:	$1,000.00
			Grand Total:	**$2,500.00**

Recommended Data Analysis Activities

Post data collection activities generally follow those outlined in EPA's Guidance for Data Quality Assessment (EPA, 2000). The data analysts will become familiar with the context of the problem and goals for data collection and assessment. The data will be verified and validated before being subjected to statistical or other analyses. Graphical and analytical tools will be used to verify to the extent possible the assumptions of any statistical analyses that are performed as well as to achieve a general understanding of the data. The data will be assessed to determine whether they are adequate in both quality and quantity to support the primary objective of sampling.

Estimates for the proportion of the population values will be calculated using the formulas appropriate for stratified sampling; these formulas are found in EPA QA/G-5S (EPA, 2001). Results of the exploratory and quantitative assessments of the data will be reported, along with conclusions that may be supported by them.

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This report summarizes the stratified sampling design used, associated statistical assumptions, as well as general guidelines for conducting post-sampling data analysis. Sampling plan components presented here include how many sampling locations to choose and where within the sampling area to collect those samples. The type of medium to sample (i.e., soil, groundwater, etc.) and how to analyze the samples (in-situ, fixed laboratory, etc.) are addressed in other sections of the sampling plan. It is important to note that the decision for sample size calculation is determined for the combined strata, rather than any individual strata.

The following table summarizes the proportion stratified sampling design developed. A figure that shows sampling locations in the field and a table that lists sampling location coordinates are also provided below.

SUMMARY OF SAMPLING DESIGN	
Primary Objective of Design	Estimate the population proportion of all strata combined
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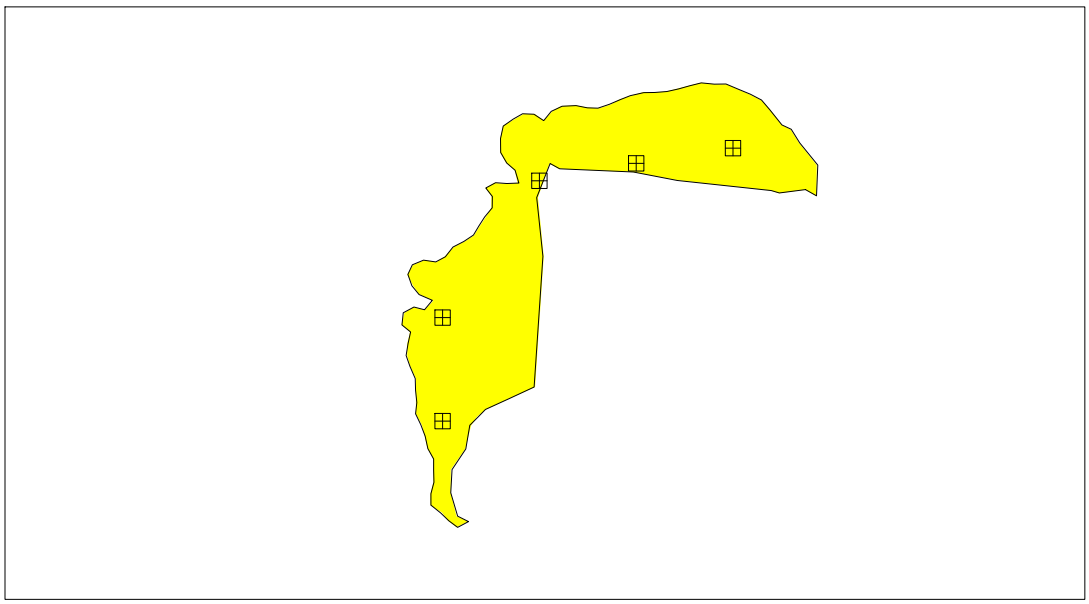
Sample Placement (Location) in the Field	Adaptive grid sampling with a rectangular pattern
Formula for calculating number of sampling locations	From Gilbert (1987, page 51)
Method for calculating number of sampling locations in each stratum	Optimal Allocation
Calculated total number of samples	5
Stratum 1	5
Total area of all strata	5941.19 m^2
Total cost of sampling [a]	$3,500.00

[a] Including measurement analyses and fixed overhead costs. See the Cost of Sampling section for an explanation of the costs presented here.



Area: Area 1

X Coord	Y Coord	Label	Value	Type	Historical	Sample Area
-11531469.8254	3822798.2716			Adaptive Grid		
-11531469.8254	3822833.9119			Adaptive Grid		
-11531436.4857	3822881.0106			Adaptive Grid		
-11531403.1460	3822887.0513			Adaptive Grid		
-11531369.8064	3822892.2485			Adaptive Grid		

Primary Sampling Objective
The primary purpose of sampling at this site is to estimate the proportion for the entire site, i.e., for all strata combined, such that the estimated proportion has the minimum possible standard deviation under the condition that the sampling and measurement costs cannot exceed a specified amount. Preexisting information was used to divide the site into 1 non-overlapping strata that were expected to be more homogeneous internally than for the entire site (all strata combined). The expected variability of values within each stratum was estimated or approximated, and the stratum weights, W_h, were determined so that the total number of samples could be allocated appropriately among the strata.

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where
L is the number of strata, $h=1,2,...,L$,
P_h is the estimated proportion of measurements in stratum h,
$W_h = N_h / N$ is the weight associated with stratum h,
N_h is the total number of possible sampling locations (units) in stratum h,
N is the total number of possible units in all strata combined, $N = \sum_{h=1}^{L} N_h$
V is the pre-specified variance or precision, and
c_h is the cost of collecting and measuring a sample in stratum h.

The values of these inputs that result in the calculated number of sampling locations are:

Parameter	Stratum
	1
P_h	0.2
C_h	$500.00
W_h	5941.19

Parameter	Input Value
V	1

Allocation of Samples to Strata
The total number of samples is allocated to the individual strata on an optimal basis using the formula:

$$n_h = n \frac{N_h \sqrt{P_h(1-P_h)} / \sqrt{c_h}}{\sum_{h=1}^{L} N_h \sqrt{P_h(1-P_h)} / \sqrt{c_h}}$$

where

n_h is the number of samples allocated to stratum h,
L is the number of strata,
N_h is the total number of units in stratum h,
P_h is the proportion in stratum h,
c_h is the cost per population unit in stratum h.

n is the total number of units sampled in all strata, $n = \sum_{h=1}^{L} n_h$

Using this formula, the number of samples allocated to each stratum is:

Stratum	Number of Samples
1	5
Total Samples	5

Method for Determining Sampling Locations

Five methods for determining sample locations are provided in VSP: 1) simple random sampling, 2) random sampling within grids, 3) systematic sampling with a random start, 4) systematic sampling with a fixed start and 5) adaptive grid sampling. One may use a different method for each stratum, based on the conceptual site model and decision to be made for a given stratum. For this site, sample locations were chosen using adaptive grid sampling in each stratum.

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Stratum	Samples	Collection Cost Per Sample	Analytic Cost Per Sample	Total Cost
1	5	$100.00	$400.00	$2,500.00
Total Samples:	**5**		**Subtotal:**	**$2,500.00**
			Fixed Startup Cost:	$1,000.00
			Grand Total:	**$3,500.00**

Recommended Data Analysis Activities

Post data collection activities generally follow those outlined in EPA's Guidance for Data Quality Assessment (EPA, 2000). The data analysts will become familiar with the context of the problem and goals for data collection and assessment. The data will be verified and validated before being subjected to statistical or other analyses. Graphical and analytical tools will be used to verify to the extent possible the assumptions of any statistical analyses that are performed as well as to achieve a general understanding of the data. The data will be assessed to determine whether they are adequate in both quality and quantity to support the primary objective of sampling.

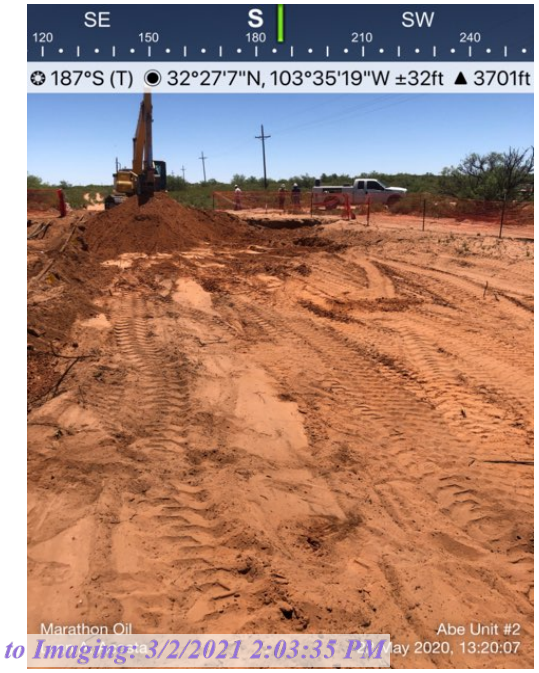
Estimates for the proportion of the population values will be calculated using the formulas appropriate for stratified sampling; these formulas are found in EPA QA/G-5S (EPA, 2001). Results of the exploratory and quantitative assessments of the data will be reported, along with conclusions that may be supported by them.

APPENDIX D
PHOTO LOG & FIELD NOTES


NW
N
NE
6°N (T) 32°27'7"N, 103°35'19"W ±16ft ▲ 3716ft
Marathon Oil
Lynn A. Acosta
Abe Unit #2
22 May 2020, 13:20:26


SE
S
SW
185°S (T) 32°27'6"N, 103°35'19"W ±16ft ▲ 3703ft
Marathon Oil
Lynn A. Acosta
Abe Unit #2
22 May 2020, 13:18:01


SE
S
SW
187°S (T) 32°27'6"N, 103°35'19"W ±213ft ▲ 3703ft
Marathon Oil
Lynn A. Acosta
Abe Unit #2
22 May 2020, 13:18:23


SE
S
SW
187°S (T) 32°27'7"N, 103°35'19"W ±32ft ▲ 3701ft
Marathon Oil
Abe Unit #2
ay 2020, 13:20:07


NW
N
NE
7°N (T) 32°27'6"N, 103°35'20"W ±16ft ▲ 3698ft
Marathon Oil
Lynn A. Acosta
Abe Unit #2
22 May 2020, 13:16:59


N
NE
E
36°NE (T) 32°27'6"N, 103°35'19"W ±16ft ▲ 3710ft
Marathon Oil
Lynn A. Acosta
Abe Unit #2
22 May 2020, 13:19:00


S SW W
180 210 240 270 300
235°SW (T) 32°27'6"N, 103°35'18"W ±16ft 3713ft
Marathon Oil
Lynn A. Acosta
Abe Unit #2
22 May 2020, 13:19:25


E SE S
90 120 150 180
133°SE (T) 32°27'7"N, 103°35'19"W ±265ft 3713ft
Marathon Oil
Lynn A. Acosta
Abe Unit #2
22 May 2020, 13:19:54


SE S SW
150 180 210 240
194°S (T) 32°27'7"N, 103°35'19"W ±16ft 3711ft
Marathon Oil
Lynn A. Acosta
Abe Unit #2
22 May 2020, 13:20:38

Field Screening

Location Name: Abe Unit #2

Date: 5/22/20

Sample Name:	Soil Type:	Depth (BGS)	Collection Time:	EC (ppm)	Temp (°C)	PID Reading	PF
Pad Overspray CSL 1	Caliche	Surface	945	0.04	27.3		
Pad Overspray CSL 2	"	Surface	947	0.05	27.3		
Pad Overspray CSL 3	"	Surface	949	0.06	27.4		
Pasture Overspray CSL 1	tan/rd sand	Surface	1047	0.04	28.0		
Pasture Overspray CSL 2	tan/rd sand	Surface	1050	0.03	28.1		
Pasture Overspray CSL 3	"	Surface	1053	0.04	28.2		
Pasture Overspray CSL 4	"	Surface	1055	0.05	28.1		
Pasture Overspray CSL 5	"	Surface	1058	0.03	28.2		
Pasture Overspray CSL 6	"	Surface	1100	0.04	28.1		
Pasture Overspray CSL 7	"	Surface	1105	0.05	28.4		
Pasture Overspray CSL 8	"	Surface	1110	0.03	28.3		
Pasture Overspray CSL 9	"	0.5'	1113	0.04	28.4		
Drainage area Concentrate area CSL 1	"	2'	1122	0.03	28.5		
Concentrated area CSL 2	"	2'	1125	0.02	28.5		
Concentrated area CSL 3	"	2'	1128	0.04	28.6		
Concentrated area CSL 4	"	2'	1132	0.05	28.7		
Concentrated area CSL 5	"	2'	1135	0.02	28.6		
Concentrated area CSL 6	"	1'	1140	0.04	28.7		
Concentrated area CSL 7	"	1'	1143	0.01	28.8		
Concentrated area CSL 8	"	1'	1145	0.02	28.4		
SW 1	"	0-2'	1320	0.03	28.9		
SW 2	"	0-1'	1322	0.04	28.8		
SW 3	"	0-1'	1325	0.04	28.8		
SW 4	"	0-1	1328	0.03	28.9		
SW 5	"	0-2'	1330	0.04	28.9		

Field Screening

Location Name: Abe Unit #2

Date: 5/22/2020

Sample Name:	Soil Type:	Depth (BGS)	Collection Time:	EC (ppm)	Temp (°C)	PID Reading	PF
SW6	tan/rd sand	0-2'	1334	0.04	28.9		
SW7	" "	0-2'	1338	0.03	28.9		

Field Screening

Location Name: Abe State

Date: 4/8/2020

Pg 1/2

Sample Name:	Collection Time:	EC (mS)	Temp (°C)	PID Reading /PF	Soil Color	Primary Soil Type	Moisture Level	Other Remarks/Notes:
Pad Overspray SL1-Surface	9:28	0.13	20.5		~~Light~~ ~~Tan~~ Gray Yellow Dark Brown Olive Red	Gravel ~~Sand~~ Clay ~~Rock~~ Silt	~~Dry~~ Moist Wet	Caliche layer, shows no sign of impact.
Pad Overspray SL1-0.5'	9:30	0.14	20.9		Light Tan Gray Yellow Dark Brown Olive Red	Gravel Sand Clay Rock Silt	Dry Moist Wet	" "
Pad Overspray SL2-Surface	9:33	0.12	20.1		~~Light~~ ~~Tan~~ Gray Yellow Dark Brown Olive Red	Gravel ~~Sand~~ Clay ~~Rock~~ Silt	~~Dry~~ Moist Wet	" "
Pad Overspray SL2-0.5'	935	0.08	20.2		Light ~~Tan~~ Gray Yellow Dark Brown Olive Red	Gravel ~~Sand~~ Clay ~~Rock~~ Silt	~~Dry~~ Moist Wet	" "
Pasture Overspray SL1-Surface	940	0.04	20.6		Light Tan Gray Yellow Dark ~~Brown~~ Olive Red	Gravel ~~Sand~~ Clay Rock Silt	~~Dry~~ Moist Wet	Brown sand, w/ secondary comp of silt/clay (Ensd)
Pasture Overspray SL1-0.5'	945	0.04	20.7		Light Tan Gray Yellow Dark ~~Brown~~ Olive Red	Gravel ~~Sand~~ Clay Rock Silt	~~Dry~~ Moist Wet	" "
Pasture Overspray SL2-Surface	950	0.02	20.5		Light Tan Gray Yellow Dark ~~Brown~~ Olive Red	Gravel ~~Sand~~ Clay Rock Silt	~~Dry~~ Moist Wet	" "
Pasture Overspray SL2-0.5'	953	0.01	20.1		Light Tan Gray Yellow Dark ~~Brown~~ Olive Red	Gravel ~~Sand~~ Clay Rock Silt	~~Dry~~ Moist Wet	" "
Pasture Overspray SL3-Surface	957	0.02	20.3		Light Tan Gray Yellow Dark ~~Brown~~ Olive Red	Gravel ~~Sand~~ Clay Rock Silt	~~Dry~~ Moist Wet	" "

Field Screening

Location Name: Abe State

Date: 4/8/20

Pg 2 of 2

Sample Name:	Collection Time:	EC (mS)	Temp (°C)	PID Reading /PF	Soil Color	Primary Soil Type	Moisture Level	Other Remarks/Notes:
Pasture Overspray SL3-0.5'	10:00	0.02	20.2		Light Dark / Tan Brown / Gray Olive / Yellow Red	Gravel Rock / Sand Silt / Clay	Dry / Moist / Wet	"
Pasture Overspray SL4-Surface	10:03	0.02	20.1		Light Dark / Tan Brown / Gray Olive / Yellow Red	Gravel Rock / Sand Silt / Clay	Dry / Moist / Wet	"
Pasture Overspray SL4-0.5'	10:05	0.01	20.1		Light Dark / Tan Brown / Gray Olive / Yellow Red	Gravel Rock / Sand Silt / Clay	Dry / Moist / Wet	"
Pasture Overspray SL5-Surface	10:10	0.03	20.5		Light Dark / Tan Brown / Gray Olive / Yellow Red	Gravel Rock / Sand Silt / Clay	Dry / Moist / Wet	"
Pasture Overspray SL5-0.5'	10:13	0.02	20.4		Light Dark / Tan Brown / Gray Olive / Yellow Red	Gravel Rock / Sand Silt / Clay	Dry / Moist / Wet	"
Pasture Overspray SL6-Surface	10:20	0.10	20.5		Light Dark / Tan Brown / Gray Olive / Yellow Red	Gravel Rock / Sand Silt / Clay	Dry / Moist / Wet	" There was a seperation in contain indicating possible HC presen
Pasture Overspray SL6 0.5'	10:23	0.01	20.6		Light Dark / Tan Brown / Gray Olive / Yellow Red	Gravel Rock / Sand Silt / Clay	Dry / Moist / Wet	"
Pasture Overspray SL7-Surface	10:27	0.02	20.5		Light Dark / Tan Brown / Gray Olive / Yellow Red	Gravel Rock / Sand Silt / Clay	Dry / Moist / Wet	"
Pasture Overspray SL7-0.5'	10:30	0.02	20.4		Light Dark / Tan Brown / Gray Olive / Yellow Red	Gravel Rock / Sand Silt / Clay	Dry / Moist / Wet	"

Field Screening

Location Name: Ake Unit #2

Date: 4/16/20

Sample Name:	Soil Type:	Depth (BGS)	Collection Time:	EC (ppm)	Temp (°C)	PID Reading	PF
L1	red Sand	0.5'	842	2.44	17.2	1107	
		1	850	0.95	18.0	170	
		2	853	0.09	18.0	229	
		3	855	0.08	18.2	161	
		4	9:00	0.08	17.8	95.5	
L2	red Sand	* 0.5'	907	2.58	18.3	536	
		* 1'	909	0.66	18.3	149	
		* 2'	911	0.04	18.4	112	
		* 3'	915	0.01	19.2	68	
		4'	~~919~~ 920	0.08	18.9	108	
L3	red sand	* 0.5	940	0.69	19.2	~~505~~	
		* 1'	944	0.02	19.4	55.6	
		* 2'	945	0.02	19.4	52.4	
		* 3'	947	0.01	19.2	48.9	
		4'	950	—	—	44.5	
L4	red sand	* 0.5'	955	~~0.40~~ 0.36	19.6	136	
		* 1'	957	0.07	19.7	113	
		* 2'	959	0.02	19.4	92.2	
		* 3'	10:02	—	—	84.5	
		4'	10:03			139	
L5	red sand	* 0.5'	1009	0.46	19.2	~~1043~~ 293	
		* 1'	1012	0.06	19.3	112	
		* 2'	1013	—	—	73	
		* 3'	1015	—	—	44.5	
		4'	1017	—	—	48.4	

Field Screening

Location Name: Abe Unit #2

Date: 4/16/20

Sample Name:	Soil Type:	Depth (BGS)	Collection Time:	EC (ppm)	Temp (°C)	PID Reading	PF
L6	red sand	0.5'	1026	2.07	21.3	378	
		1'	10:30	0.04	14.4	213	
		2'	1032	—	—	142	
		3'	1035	—	—	87.5	
		4'	1037	—	—	52	
L7	red sand	0.5'	1042	0.67	20.7	184	
		1'	1044	0.04	14.4	95.8	
		2'	1046	—	—	83.7	
		3'	1048	—	—	86.4	
		4'	1050	—	—	68.1	
L8	red sand	0.5'	1110	1.14	21.0	721	
		1'	1112	0.05	20.5	731	
		2'	1115	—	—	109	
		3'	1117	—	—	95.3	
		4'	1120	—	—	95.2	
L9	red sand	0.5'	1052	2.48	20.9	1147	
		1'	1054	4.24	20.5	626	
		2'	1056	0.07	20.0	118	
		3'	1058	0.06	19.5	145	
		4'	1107	—	—	126	

APPENDIX E
MICRO-BLAZE SDS SHEET

Micro-Blaze
Microbial Products

Safety Data Sheet
Micro-Blaze® Emergency Liquid Spill Control

1. IDENTIFICATION OF THE SUBSTANCE

Product identifier

Product Name:	Micro-Blaze® Emergency Liquid Spill Control
Product Code:	MBELSC

Recommended use of the chemical and restrictions on use

Recommended Use:	Bioremediation/cleaning
Uses advised against:	Please refer to Product Data Sheet

Details of the supplier of the Safety Data Sheet

Contact Manufacturer:	Verde Environmental, Inc. 9223 Eastex Freeway Houston, TX USA 77093
Information Telephone Number:	1-713-691-6468
Emergency Telephone Number:	1-800-424-9300 (Chemtrec) 24 hours every day

2. HAZARDS IDENTIFICATION

Classification

Classification of the product is in accordance with 29CFR 1910.1200

Acute toxicity – Oral	Category 5
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1

Label elements

Emergency Overview

Warning

Hazard statements

May cause an allergic skin reaction
Causes serious eye irritation
May be harmful if swallowed

Appearance: Opaque **Physical State:** Liquid **Odor:** Slight fermentation odor

Precautionary Statements – Prevention

Micro-Blaze
Microbial Products

Safety Data Sheet
Micro-Blaze® Emergency Liquid Spill Control

Wear eye/face protection. Wear protective gloves. Avoid breathing dust/fume/gas/mist/vapors/spray.

Precautionary Statements – Response

Eyes	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Skin	IF ON SKIN: Gently wash with plenty of soap and water
Inhalation	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
Ingestion	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Precautionary Statements – Storage
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F

Precautionary Statements – Disposal
Dispose of unused product and container in accordance with all applicable local and regional requirements

Hazards not otherwise classified (HNOC)
Not applicable

Other information

Health Hazard	1
Fire Hazard	0
Reactivity	0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS No	EC No
Water	7732-18-5	231-791-2
Viable Spore Forming Cultures	N/A	N/A
Alcohol Ethoxylate	68131-39-5	500-195-7
Urea	57-13-6	200-315-5
Dipotassium Phosphate	7758-11-4	231-834-5
Diammonium Phosphate	7783-28-0	231-987-8
EDTA	64-02-8	200-573-9
Fragrance	Proprietary	Proprietary

Micro-Blaze
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Micro-Blaze® Emergency Liquid Spill Control

4. FIRST AID MEASURES

First aid measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes
Skin Contact	Wash off immediately with soap and plenty of water
Inhalation	Move to fresh air
Ingestion	Clean mouth with water and afterwards drink plenty of water

Most important symptoms and effects, both acute and delayed

Main symptoms	No information available

Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Specific Hazards Arising from the Chemical
No information available

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions	Ensure adequate ventilation

Environmental precautions

Environmental Precautions	It is not anticipated to be hazardous for the environment

Methods and material for containment and cleaning up

Methods for Clean-up	Pick up and transfer to properly labeled containers

7. HANDLING AND STORAGE

Micro-Blaze
Microbial Products

Safety Data Sheet
Micro-Blaze® Emergency Liquid Spill Control

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place

Packaging Material There could be many packaging types for the product. The details are given in other Verde Environmental, Inc. documents

Incompatible Materials Strong acids or alkali compounds and strong oxidizing agents may inactivate biological cultures

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Control parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Water	-	-	-
Viable Spore Forming Cultures	-	-	-
Alcohol Ethoxylate	-	-	-
Urea	-	-	-
Dipotassium Phosphate	-	-	-
Diammonium Phosphate	-	-	-
EDTA	-	-	-
Fragrance	-	-	-

Appropriate engineering controls

Individual protection measures, such as personal protective equipment

Eye Protection Avoid contact with eyes

Skin and body protection No special technical protective measures are necessary

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practices

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State Liquid

Micro-Blaze
Microbial Products

Safety Data Sheet
Micro-Blaze® Emergency Liquid Spill Control

Appearance	Tan, Opaque
Odor	Pleasant (perfume)
Odor Threshold	No information available

Property	**Values**
pH	7.0 – 8.0
Melting/freezing point	freeze at 0°C/32°F
Evaporation rate VALUE	No information available
Flammability (solid, gas)	Not flammable
Burning rate 100mm VALUE	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific gravity	No information available
Water solubility	99%
Solubility in other solvents	No information available
Partition Coefficient (n-octanol/water)	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity of product	No information available
Viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening Point	No information available
VOC Content	No information available
Density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions

Possibility of Hazardous Reactions
None under normal processing

Conditions to avoid
Extremes of temperature and direct sunlight

Incompatible materials
Strong acids or alkali compounds and strong oxidizing agents may inactivate biological cultures

Hazardous Decomposition Products
No information available

Micro-Blaze
Microbial Products

Safety Data Sheet
Micro-Blaze® Emergency Liquid Spill Control

11. Toxicological Information

Information on likely routes of exposure

Inhalation	There is no data available for this product
Eye contact	Avoid contact with eyes. Severely irritating to eyes
Skin contact	Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion	Ingestion may cause stomach discomfort

Information on toxicological effects

Symptoms No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	May cause sensitization of susceptible persons
Mutagenic Effects	No information available
Reproductive Effects	No information available
Specific target organ systemic toxicity	No information available
Aspiration hazard	No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity
None known

Chemical Name	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
EDTA 64-02-8	EC50 = 1.01 mg/L 72h			EC50 = 610mg/L 24h

Persistence/Degradability
The organic components of the product are biodegradable.

Bioaccumulation/Accumulation
No information available

Other adverse effects
No known effect

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Micro-Blaze
Microbial Products

Safety Data Sheet
Micro-Blaze® Emergency Liquid Spill Control

Waste Disposal Method	Dispose of contents/container in accordance with local regulation
Contaminated Packaging	Empty containers should be taken for local recycling, recovery or waste disposal

14. TRANSPORT INFORMATION

DOT	Not regulated
TDG	Not regulated
MEX	Not regulated
ICAO	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated
RID	Not regulated
ADR	Not regulated
ADN	Not regulated

15. REGULATORY INFORMATION

International Inventories
Legend:
TSCA – United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL – Canadian Domestic Substances List/Non-Domestic Substances List

Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and 40 CFR Part 372.

SARA 311/312 Hazardous Categorization

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

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CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

State Right-to-Know
U.S. EPA Label Information
EPA Pesticide Registration Number Not Applicable

Canada

WHMIS Statement This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

WHMIS Graphic

WHMIS Hazard Class D2B Toxic materials

16. OTHER INFORMATION

Revision date: 10.10.2018
Revision Summary

No information available

Disclaimer
The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text. Furthermore, as the conditions of use are beyond the control of Verde Environmental, Inc., it is the responsibility of the customer to determine the conditions of safe use of this preparation.

APPENDIX F

LABORTARY ANALYTICAL RESULTS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

April 20, 2020

Ashley Maxwell

Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL:
FAX:

RE: Abe Unit OrderNo.: 2004519

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 18 sample(s) on 4/10/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pod Overspray L1-Surface
Project: Abe Unit
Collection Date: 4/8/2020 9:28:00 AM
Lab ID: 2004519-001 **Matrix:** SOIL
Received Date: 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	62	60		mg/Kg	20	4/14/2020 7:24:55 PM	51782
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **CLP**	
Diesel Range Organics (DRO)	28	10		mg/Kg	1	4/13/2020 3:12:06 PM	51742
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/13/2020 3:12:06 PM	51742
Surr: DNOP	85.8	55.1-146		%Rec	1	4/13/2020 3:12:06 PM	51742
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/15/2020 3:17:54 AM	51738
Surr: BFB	94.0	66.6-105		%Rec	1	4/15/2020 3:17:54 AM	51738
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	4/15/2020 3:17:54 AM	51738
Toluene	ND	0.050		mg/Kg	1	4/15/2020 3:17:54 AM	51738
Ethylbenzene	ND	0.050		mg/Kg	1	4/15/2020 3:17:54 AM	51738
Xylenes, Total	ND	0.10		mg/Kg	1	4/15/2020 3:17:54 AM	51738
Surr: 4-Bromofluorobenzene	96.5	80-120		%Rec	1	4/15/2020 3:17:54 AM	51738

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pod Overspray L1-0.5'
Project: Abe Unit
Collection Date: 4/8/2020 9:30:00 AM
Lab ID: 2004519-002 **Matrix:** SOIL **Received Date:** 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	62	60		mg/Kg	20	4/14/2020 8:02:08 PM	51782

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pod Overspray L2-Surface
Project: Abe Unit
Collection Date: 4/8/2020 9:33:00 AM
Lab ID: 2004519-003 **Matrix:** SOIL **Received Date:** 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	4/14/2020 8:39:21 PM	51782
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/13/2020 11:58:33 PM	51743
Surr: BFB	97.8	70-130		%Rec	1	4/13/2020 11:58:33 PM	51743
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	21	9.9		mg/Kg	1	4/14/2020 1:28:08 PM	51745
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/14/2020 1:28:08 PM	51745
Surr: DNOP	80.8	55.1-146		%Rec	1	4/14/2020 1:28:08 PM	51745
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	4/13/2020 11:58:33 PM	51743
Toluene	ND	0.049		mg/Kg	1	4/13/2020 11:58:33 PM	51743
Ethylbenzene	ND	0.049		mg/Kg	1	4/13/2020 11:58:33 PM	51743
Xylenes, Total	ND	0.099		mg/Kg	1	4/13/2020 11:58:33 PM	51743
Surr: 1,2-Dichloroethane-d4	96.1	70-130		%Rec	1	4/13/2020 11:58:33 PM	51743
Surr: 4-Bromofluorobenzene	96.2	70-130		%Rec	1	4/13/2020 11:58:33 PM	51743
Surr: Dibromofluoromethane	102	70-130		%Rec	1	4/13/2020 11:58:33 PM	51743
Surr: Toluene-d8	97.5	70-130		%Rec	1	4/13/2020 11:58:33 PM	51743

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pod Overspray L2-0.5'
Project: Abe Unit
Collection Date: 4/8/2020 9:35:00 AM
Lab ID: 2004519-004 **Matrix:** SOIL **Received Date:** 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	4/14/2020 8:51:46 PM	51782

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pasture Overspray L1-Surface
Project: Abe Unit
Collection Date: 4/8/2020 9:40:00 AM
Lab ID: 2004519-005 **Matrix:** SOIL **Received Date:** 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	4/14/2020 3:19:19 PM	51788
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/14/2020 1:25:21 AM	51743
Surr: BFB	97.6	70-130		%Rec	1	4/14/2020 1:25:21 AM	51743
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/15/2020 6:22:15 PM	51745
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/15/2020 6:22:15 PM	51745
Surr: DNOP	89.5	55.1-146		%Rec	1	4/15/2020 6:22:15 PM	51745
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.024		mg/Kg	1	4/14/2020 1:25:21 AM	51743
Toluene	ND	0.049		mg/Kg	1	4/14/2020 1:25:21 AM	51743
Ethylbenzene	ND	0.049		mg/Kg	1	4/14/2020 1:25:21 AM	51743
Xylenes, Total	ND	0.098		mg/Kg	1	4/14/2020 1:25:21 AM	51743
Surr: 1,2-Dichloroethane-d4	95.5	70-130		%Rec	1	4/14/2020 1:25:21 AM	51743
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	4/14/2020 1:25:21 AM	51743
Surr: Dibromofluoromethane	104	70-130		%Rec	1	4/14/2020 1:25:21 AM	51743
Surr: Toluene-d8	97.6	70-130		%Rec	1	4/14/2020 1:25:21 AM	51743

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pasture Overspray L1-0.5'
Project: Abe Unit
Collection Date: 4/8/2020 9:45:00 AM
Lab ID: 2004519-006 **Matrix:** SOIL **Received Date:** 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	4/14/2020 3:56:33 PM	51788

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pasture Overspray L2-Surface
Project: Abe Unit
Collection Date: 4/8/2020 9:50:00 AM
Lab ID: 2004519-007 **Matrix:** SOIL **Received Date:** 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	4/14/2020 4:08:57 PM	51788
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/14/2020 2:51:53 AM	51743
Surr: BFB	98.0	70-130		%Rec	1	4/14/2020 2:51:53 AM	51743
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/14/2020 2:16:23 PM	51745
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/14/2020 2:16:23 PM	51745
Surr: DNOP	96.4	55.1-146		%Rec	1	4/14/2020 2:16:23 PM	51745
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.024		mg/Kg	1	4/14/2020 2:51:53 AM	51743
Toluene	ND	0.049		mg/Kg	1	4/14/2020 2:51:53 AM	51743
Ethylbenzene	ND	0.049		mg/Kg	1	4/14/2020 2:51:53 AM	51743
Xylenes, Total	ND	0.097		mg/Kg	1	4/14/2020 2:51:53 AM	51743
Surr: 1,2-Dichloroethane-d4	90.8	70-130		%Rec	1	4/14/2020 2:51:53 AM	51743
Surr: 4-Bromofluorobenzene	95.6	70-130		%Rec	1	4/14/2020 2:51:53 AM	51743
Surr: Dibromofluoromethane	101	70-130		%Rec	1	4/14/2020 2:51:53 AM	51743
Surr: Toluene-d8	98.7	70-130		%Rec	1	4/14/2020 2:51:53 AM	51743

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pasture Overspray L2-0.5'
Project: Abe Unit
Collection Date: 4/8/2020 9:53:00 AM
Lab ID: 2004519-008 **Matrix:** SOIL **Received Date:** 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	4/14/2020 4:21:22 PM	51788

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pasture Overspray L3-Surface
Project: Abe Unit
Collection Date: 4/8/2020 9:57:00 AM
Lab ID: 2004519-009 **Matrix:** SOIL **Received Date:** 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	4/14/2020 4:33:46 PM	51788
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/14/2020 3:20:43 AM	51743
Surr: BFB	98.7	70-130		%Rec	1	4/14/2020 3:20:43 AM	51743
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/14/2020 2:40:33 PM	51745
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/14/2020 2:40:33 PM	51745
Surr: DNOP	97.0	55.1-146		%Rec	1	4/14/2020 2:40:33 PM	51745
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.024		mg/Kg	1	4/14/2020 3:20:43 AM	51743
Toluene	ND	0.049		mg/Kg	1	4/14/2020 3:20:43 AM	51743
Ethylbenzene	ND	0.049		mg/Kg	1	4/14/2020 3:20:43 AM	51743
Xylenes, Total	ND	0.098		mg/Kg	1	4/14/2020 3:20:43 AM	51743
Surr: 1,2-Dichloroethane-d4	96.7	70-130		%Rec	1	4/14/2020 3:20:43 AM	51743
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	4/14/2020 3:20:43 AM	51743
Surr: Dibromofluoromethane	105	70-130		%Rec	1	4/14/2020 3:20:43 AM	51743
Surr: Toluene-d8	101	70-130		%Rec	1	4/14/2020 3:20:43 AM	51743

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pasture Overspray L3-0.5'
Project: Abe Unit
Collection Date: 4/8/2020 10:00:00 AM
Lab ID: 2004519-010 **Matrix:** SOIL **Received Date:** 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	4/14/2020 4:46:10 PM	51788

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pasture Overspray L4-Surface
Project: Abe Unit
Collection Date: 4/8/2020 10:03:00 AM
Lab ID: 2004519-011 **Matrix:** SOIL **Received Date:** 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	4/14/2020 5:23:25 PM	51788
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/14/2020 3:49:32 AM	51743
Surr: BFB	96.6	70-130		%Rec	1	4/14/2020 3:49:32 AM	51743
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	60	9.7		mg/Kg	1	4/14/2020 3:04:58 PM	51745
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/14/2020 3:04:58 PM	51745
Surr: DNOP	106	55.1-146		%Rec	1	4/14/2020 3:04:58 PM	51745
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.024		mg/Kg	1	4/14/2020 3:49:32 AM	51743
Toluene	ND	0.049		mg/Kg	1	4/14/2020 3:49:32 AM	51743
Ethylbenzene	ND	0.049		mg/Kg	1	4/14/2020 3:49:32 AM	51743
Xylenes, Total	ND	0.097		mg/Kg	1	4/14/2020 3:49:32 AM	51743
Surr: 1,2-Dichloroethane-d4	93.4	70-130		%Rec	1	4/14/2020 3:49:32 AM	51743
Surr: 4-Bromofluorobenzene	96.4	70-130		%Rec	1	4/14/2020 3:49:32 AM	51743
Surr: Dibromofluoromethane	103	70-130		%Rec	1	4/14/2020 3:49:32 AM	51743
Surr: Toluene-d8	97.5	70-130		%Rec	1	4/14/2020 3:49:32 AM	51743

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pasture Overspray L4-0.5'
Project: Abe Unit
Collection Date: 4/8/2020 10:05:00 AM
Lab ID: 2004519-012 **Matrix:** SOIL **Received Date:** 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	4/14/2020 5:35:49 PM	51788

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pasture Overspray SL5-Surface
Project: Abe Unit
Collection Date: 4/8/2020 10:10:00 AM
Lab ID: 2004519-013 **Matrix:** SOIL **Received Date:** 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	59		mg/Kg	20	4/14/2020 5:48:14 PM	51788
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/14/2020 4:18:19 AM	51743
Surr: BFB	101	70-130		%Rec	1	4/14/2020 4:18:19 AM	51743
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	16	9.7		mg/Kg	1	4/14/2020 3:29:33 PM	51745
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/14/2020 3:29:33 PM	51745
Surr: DNOP	98.5	55.1-146		%Rec	1	4/14/2020 3:29:33 PM	51745
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.024		mg/Kg	1	4/14/2020 4:18:19 AM	51743
Toluene	ND	0.049		mg/Kg	1	4/14/2020 4:18:19 AM	51743
Ethylbenzene	ND	0.049		mg/Kg	1	4/14/2020 4:18:19 AM	51743
Xylenes, Total	ND	0.098		mg/Kg	1	4/14/2020 4:18:19 AM	51743
Surr: 1,2-Dichloroethane-d4	93.7	70-130		%Rec	1	4/14/2020 4:18:19 AM	51743
Surr: 4-Bromofluorobenzene	94.3	70-130		%Rec	1	4/14/2020 4:18:19 AM	51743
Surr: Dibromofluoromethane	104	70-130		%Rec	1	4/14/2020 4:18:19 AM	51743
Surr: Toluene-d8	99.6	70-130		%Rec	1	4/14/2020 4:18:19 AM	51743

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pasture Overspray SL5-0.5'
Project: Abe Unit
Collection Date: 4/8/2020 10:13:00 AM
Lab ID: 2004519-014 **Matrix:** SOIL
Received Date: 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	4/14/2020 6:00:38 PM	51788

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pasture Overspray SL6-Surface
Project: Abe Unit
Collection Date: 4/8/2020 10:20:00 AM
Lab ID: 2004519-015 **Matrix:** SOIL
Received Date: 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	220	60		mg/Kg	20	4/14/2020 6:13:03 PM	51788
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/14/2020 4:47:06 AM	51743
Surr: BFB	98.6	70-130		%Rec	1	4/14/2020 4:47:06 AM	51743
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	2200	96		mg/Kg	10	4/14/2020 3:54:02 PM	51745
Motor Oil Range Organics (MRO)	1900	480		mg/Kg	10	4/14/2020 3:54:02 PM	51745
Surr: DNOP	0	55.1-146	S	%Rec	10	4/14/2020 3:54:02 PM	51745
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.024		mg/Kg	1	4/14/2020 4:47:06 AM	51743
Toluene	ND	0.049		mg/Kg	1	4/14/2020 4:47:06 AM	51743
Ethylbenzene	ND	0.049		mg/Kg	1	4/14/2020 4:47:06 AM	51743
Xylenes, Total	ND	0.098		mg/Kg	1	4/14/2020 4:47:06 AM	51743
Surr: 1,2-Dichloroethane-d4	92.6	70-130		%Rec	1	4/14/2020 4:47:06 AM	51743
Surr: 4-Bromofluorobenzene	93.6	70-130		%Rec	1	4/14/2020 4:47:06 AM	51743
Surr: Dibromofluoromethane	99.9	70-130		%Rec	1	4/14/2020 4:47:06 AM	51743
Surr: Toluene-d8	98.6	70-130		%Rec	1	4/14/2020 4:47:06 AM	51743

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pasture Overspray SL6-0.5'
Project: Abe Unit
Collection Date: 4/8/2020 10:23:00 AM
Lab ID: 2004519-016 **Matrix:** SOIL **Received Date:** 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	4/14/2020 6:25:28 PM	51788

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pasture Overspray SL7-Surface
Project: Abe Unit
Collection Date: 4/8/2020 10:27:00 AM
Lab ID: 2004519-017 **Matrix:** SOIL
Received Date: 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	4/14/2020 6:37:52 PM	51788
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/14/2020 5:15:56 AM	51743
Surr: BFB	100	70-130		%Rec	1	4/14/2020 5:15:56 AM	51743
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/14/2020 4:18:14 PM	51745
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/14/2020 4:18:14 PM	51745
Surr: DNOP	104	55.1-146		%Rec	1	4/14/2020 4:18:14 PM	51745
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	4/14/2020 5:15:56 AM	51743
Toluene	ND	0.049		mg/Kg	1	4/14/2020 5:15:56 AM	51743
Ethylbenzene	ND	0.049		mg/Kg	1	4/14/2020 5:15:56 AM	51743
Xylenes, Total	ND	0.098		mg/Kg	1	4/14/2020 5:15:56 AM	51743
Surr: 1,2-Dichloroethane-d4	91.2	70-130		%Rec	1	4/14/2020 5:15:56 AM	51743
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	1	4/14/2020 5:15:56 AM	51743
Surr: Dibromofluoromethane	99.6	70-130		%Rec	1	4/14/2020 5:15:56 AM	51743
Surr: Toluene-d8	100	70-130		%Rec	1	4/14/2020 5:15:56 AM	51743

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

Qualifiers:

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

Analytical Report
Lab Order **2004519**
Date Reported: **4/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: Pasture Overspray SL7-0.5'
Project: Abe Unit
Collection Date: 4/8/2020 10:30:00 AM
Lab ID: 2004519-018 **Matrix:** SOIL **Received Date:** 4/10/2020 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	4/14/2020 6:50:17 PM	51788

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004519**

20-Apr-20

Client: Souder, Miller & Associates

Project: Abe Unit

Sample ID: **MB-51788**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **51788**	RunNo: **68125**							
Prep Date: **4/14/2020**	Analysis Date: **4/14/2020**	SeqNo: **2355044**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-51788**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **51788**	RunNo: **68125**							
Prep Date: **4/14/2020**	Analysis Date: **4/14/2020**	SeqNo: **2355045**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.4	90	110			

Sample ID: **MB-51782**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **51782**	RunNo: **68129**							
Prep Date: **4/14/2020**	Analysis Date: **4/14/2020**	SeqNo: **2355256**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-51782**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **51782**	RunNo: **68129**							
Prep Date: **4/14/2020**	Analysis Date: **4/14/2020**	SeqNo: **2355257**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.2	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004519**

20-Apr-20

Client: Souder, Miller & Associates

Project: Abe Unit

Sample ID: **MB-51742**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **51742**	RunNo: **68052**
Prep Date: **4/11/2020**	Analysis Date: **4/13/2020**	SeqNo: **2352273** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.2		10.00		81.7	55.1	146			

Sample ID: **LCS-51742**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **51742**	RunNo: **68052**
Prep Date: **4/11/2020**	Analysis Date: **4/13/2020**	SeqNo: **2352274** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.6	70	130			
Surr: DNOP	4.8		5.000		96.4	55.1	146			

Sample ID: **LCS-51745**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **51745**	RunNo: **68101**
Prep Date: **4/12/2020**	Analysis Date: **4/14/2020**	SeqNo: **2354222** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.6	70	130			
Surr: DNOP	4.6		5.000		92.4	55.1	146			

Sample ID: **MB-51745**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **51745**	RunNo: **68101**
Prep Date: **4/12/2020**	Analysis Date: **4/14/2020**	SeqNo: **2354223** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.7		10.00		77.4	55.1	146			

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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004519**

20-Apr-20

Client: Souder, Miller & Associates

Project: Abe Unit

Sample ID: **mb-51738**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **51738**	RunNo: **68118**
Prep Date: **4/11/2020**	Analysis Date: **4/14/2020**	SeqNo: **2354670** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		97.3	66.6	105			

Sample ID: **lcs-51738**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51738**	RunNo: **68118**
Prep Date: **4/11/2020**	Analysis Date: **4/14/2020**	SeqNo: **2354671** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.8	80	120			
Surr: BFB	1100		1000		106	66.6	105			S

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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004519**

20-Apr-20

Client: Souder, Miller & Associates

Project: Abe Unit

Sample ID: **mb-51738**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **51738**	RunNo: **68086**
Prep Date: **4/11/2020**	Analysis Date: **4/13/2020**	SeqNo: **2353660** Units: **mg/Kg**

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		98.3	80	120			

Sample ID: **LCS-51738**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **51738**	RunNo: **68086**
Prep Date: **4/11/2020**	Analysis Date: **4/13/2020**	SeqNo: **2353661** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.0	80	120			
Toluene	0.91	0.050	1.000	0	91.4	80	120			
Ethylbenzene	0.94	0.050	1.000	0	94.3	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.0	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		98.6	80	120			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004519**
20-Apr-20

Client: Souder, Miller & Associates
Project: Abe Unit

Sample ID: **2004519-003ams** SampType: **MS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **Pod Overspray L2-S** Batch ID: **51743** RunNo: **68093**
Prep Date: **4/11/2020** Analysis Date: **4/14/2020** SeqNo: **2354028** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9737	0	103	70	130			
Toluene	1.0	0.049	0.9737	0	105	70	130			
Ethylbenzene	1.0	0.049	0.9737	0	106	70	130			
Xylenes, Total	3.0	0.097	2.921	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	0.46		0.4869		94.3	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.4869		96.0	70	130			
Surr: Dibromofluoromethane	0.49		0.4869		101	70	130			
Surr: Toluene-d8	0.47		0.4869		97.1	70	130			

Sample ID: **2004519-003amsd** SampType: **MSD** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **Pod Overspray L2-S** Batch ID: **51743** RunNo: **68093**
Prep Date: **4/11/2020** Analysis Date: **4/14/2020** SeqNo: **2354029** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.024	0.9775	0	100	70	130	2.28	20	
Toluene	1.0	0.049	0.9775	0	102	70	130	2.22	20	
Ethylbenzene	0.99	0.049	0.9775	0	101	70	130	4.13	0	
Xylenes, Total	2.9	0.098	2.933	0	99.2	70	130	4.44	0	
Surr: 1,2-Dichloroethane-d4	0.46		0.4888		93.9	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.46		0.4888		95.0	70	130	0	0	
Surr: Dibromofluoromethane	0.49		0.4888		99.7	70	130	0	0	
Surr: Toluene-d8	0.48		0.4888		98.6	70	130	0	0	

Sample ID: **lcs-51743** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **51743** RunNo: **68093**
Prep Date: **4/11/2020** Analysis Date: **4/13/2020** SeqNo: **2354045** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	101	70	130			
Toluene	1.0	0.050	1.000	0	101	70	130			
Ethylbenzene	1.0	0.050	1.000	0	101	70	130			
Xylenes, Total	3.0	0.10	3.000	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.5	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.9	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.48		0.5000		96.7	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004519**
20-Apr-20

Client: Souder, Miller & Associates
Project: Abe Unit

Sample ID: **mb-51743** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **51743** RunNo: **68093**
Prep Date: **4/11/2020** Analysis Date: **4/13/2020** SeqNo: **2354046** Units: **mg/Kg**

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: 1,2-Dichloroethane-d4	0.46		0.5000		92.9	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.1	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		98.3	70	130			
Surr: Toluene-d8	0.49		0.5000		98.3	70	130			

Sample ID: **lcs-51748** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS** Batch ID: **51748** RunNo: **68134**
Prep Date: **4/12/2020** Analysis Date: **4/14/2020** SeqNo: **2355378** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		95.1	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.9	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		98.9	70	130			
Surr: Toluene-d8	0.48		0.5000		96.4	70	130			

Sample ID: **mb-51748** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **51748** RunNo: **68134**
Prep Date: **4/12/2020** Analysis Date: **4/14/2020** SeqNo: **2355379** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.1	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.9	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		100	70	130			
Surr: Toluene-d8	0.49		0.5000		97.8	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004519**
20-Apr-20

Client: Souder, Miller & Associates
Project: Abe Unit

Sample ID: **2004519-005ams** SampType: **MS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **Pasture Overspray** Batch ID: **51743** RunNo: **68093**
Prep Date: **4/11/2020** Analysis Date: **4/14/2020** SeqNo: **2354071** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.9	24.39	0	91.3	70	130			
Surr: BFB	480		487.8		98.2	70	130			

Sample ID: **2004519-005amsd** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **Pasture Overspray** Batch ID: **51743** RunNo: **68093**
Prep Date: **4/11/2020** Analysis Date: **4/14/2020** SeqNo: **2354072** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.61	0	86.6	70	130	4.43	20	
Surr: BFB	490		492.1		98.7	70	130	0	0	

Sample ID: **lcs-51743** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **51743** RunNo: **68093**
Prep Date: **4/11/2020** Analysis Date: **4/13/2020** SeqNo: **2354087** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	25.00	0	80.2	70	130			
Surr: BFB	490		500.0		97.3	70	130			

Sample ID: **mb-51743** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **51743** RunNo: **68093**
Prep Date: **4/11/2020** Analysis Date: **4/13/2020** SeqNo: **2354088** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	510		500.0		102	70	130			

Sample ID: **lcs-51748** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **51748** RunNo: **68134**
Prep Date: **4/12/2020** Analysis Date: **4/14/2020** SeqNo: **2355428** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	480		500.0		96.3	70	130			

Sample ID: **mb-51748** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **51748** RunNo: **68134**
Prep Date: **4/12/2020** Analysis Date: **4/14/2020** SeqNo: **2355429** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	500		500.0		100	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **SMA-CARLSBAD** Work Order Number: **2004519** RcptNo: **1**

Received By: **Isaiah Ortiz** **4/10/2020 8:25:00 AM** I-OK

Completed By: **Desiree Dominguez** **4/10/2020 10:03:05 AM** DD

Reviewed By: LB 4/10/20

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: JR 4/10/20

Special Handling (if applicable)

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

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.8	Good	Not Present			

Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 5 day rush

Project Name: Aloe Unit

Project #:

Project Manager: Ashley Maxwell

Sampler: LAA

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 4.7 +0.1 (LC) | 4.8 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2004579	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/8/20	928	Soil	Red Oversprey L1-Surface	4oz		-001	X	X					X			
	930		Red Oversprey L1-0.5'			-002							X			
	933		Red Oversprey L2-Surface			-003	X	X					X			
	935		Red Oversprey L2-0.5'			-004							X			
	940		Restore Oversprey L1-Surface			-005	X	X					X			
	945		Restore Oversprey L1-0.5'			-006							X			
	950		Restore Oversprey L2-Surface			-007	X	X					X			
	953		Restore Oversprey L2-0.5'			-008							X			
	957		Restore Oversprey L3-Surface			-009	X	X					X			
	10:00		Restore Oversprey L3-0.5'			-010							X			
	10:03		Restore Oversprey L4-Surface			-011	X	X					X			
	10:05		Restore Oversprey L4-0.5'			-012							X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					4/9/20	1330
Date: 4/9/20	Time: 1900	Relinquished by:	Received by:	Via:	Date	Time
					4/10/20	0825

Remarks: Direct Bill: Marathon 0.1 Pg 1/2

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

Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush 5 day turn

Project Name: Abe State

Project #:

Project Manager: Ashley Maxwell

Sampler: LAA

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 4.7+0.1(CF) 4.8 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2004519	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/8/20	10:10	Soil	Resturn Overspray SL5 - Surface	4 oz		-013	X	X					X			
	10:13		Resturn Overspray SL5 - 0.5'			-014							X			
	10:20		Resturn Overspray SL6 - Surface			-015	X	X					X			
	10:23		Resturn Overspray SL6 - 0.5'			-016							X			
	10:27		Resturn Overspray SL7 - Surface			-017	X	X					X			
	10:30		Resturn Overspray SL7 - 0.5'			-018							X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					4/9/20	1330
Date: 4/9/20	Time: 1900	Relinquished by:	Received by:	Via:	Date	Time
					4/10/20	0825

Remarks: Direct Bill: Marathon Oil Pg 2/2

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

April 24, 2020

Ashley Maxwell

Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL:
FAX:

RE: Abe Unit 2 OrderNo.: 2004814

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 41 sample(s) on 4/17/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-0.5'
Project: Abe Unit 2
Collection Date: 4/16/2020 8:42:00 AM
Lab ID: 2004814-001 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**JMT**
Chloride	3800	150		mg/Kg	50	4/22/2020 2:09:30 PM	52000
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	9900	450		mg/Kg	50	4/20/2020 4:25:41 PM	51939
Motor Oil Range Organics (MRO)	3500	2200		mg/Kg	50	4/20/2020 4:25:41 PM	51939
Surr: DNOP	0	55.1-146	S	%Rec	50	4/20/2020 4:25:41 PM	51939
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	530	25		mg/Kg	5	4/21/2020 3:14:18 AM	51914
Surr: BFB	740	66.6-105	S	%Rec	5	4/21/2020 3:14:18 AM	51914
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	0.19	0.12		mg/Kg	5	4/21/2020 3:14:18 AM	51914
Toluene	5.2	0.25		mg/Kg	5	4/21/2020 3:14:18 AM	51914
Ethylbenzene	6.9	0.25		mg/Kg	5	4/21/2020 3:14:18 AM	51914
Xylenes, Total	27	0.50		mg/Kg	5	4/21/2020 3:14:18 AM	51914
Surr: 4-Bromofluorobenzene	169	80-120	S	%Rec	5	4/21/2020 3:14:18 AM	51914

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-1'
Project: Abe Unit 2
Collection Date: 4/16/2020 8:50:00 AM
Lab ID: 2004814-002 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	930	60		mg/Kg	20	4/21/2020 11:40:51 PM	52000
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	15	8.8		mg/Kg	1	4/20/2020 4:50:28 PM	51939
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/20/2020 4:50:28 PM	51939
Surr: DNOP	87.0	55.1-146		%Rec	1	4/20/2020 4:50:28 PM	51939
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/21/2020 3:38:09 AM	51914
Surr: BFB	106	66.6-105	S	%Rec	1	4/21/2020 3:38:09 AM	51914
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	4/21/2020 3:38:09 AM	51914
Toluene	ND	0.049		mg/Kg	1	4/21/2020 3:38:09 AM	51914
Ethylbenzene	ND	0.049		mg/Kg	1	4/21/2020 3:38:09 AM	51914
Xylenes, Total	ND	0.098		mg/Kg	1	4/21/2020 3:38:09 AM	51914
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	4/21/2020 3:38:09 AM	51914

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-2'
Project: Abe Unit 2
Collection Date: 4/16/2020 8:53:00 AM
Lab ID: 2004814-003 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	73	60		mg/Kg	20	4/21/2020 11:53:16 PM	52000
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	130	10		mg/Kg	1	4/20/2020 5:15:24 PM	51939
Motor Oil Range Organics (MRO)	70	50		mg/Kg	1	4/20/2020 5:15:24 PM	51939
Surr: DNOP	89.4	55.1-146		%Rec	1	4/20/2020 5:15:24 PM	51939
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/21/2020 4:02:06 AM	51914
Surr: BFB	105	66.6-105	S	%Rec	1	4/21/2020 4:02:06 AM	51914
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	4/21/2020 4:02:06 AM	51914
Toluene	ND	0.050		mg/Kg	1	4/21/2020 4:02:06 AM	51914
Ethylbenzene	ND	0.050		mg/Kg	1	4/21/2020 4:02:06 AM	51914
Xylenes, Total	ND	0.10		mg/Kg	1	4/21/2020 4:02:06 AM	51914
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	4/21/2020 4:02:06 AM	51914

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-3'
Project: Abe Unit 2
Collection Date: 4/16/2020 8:55:00 AM
Lab ID: 2004814-004 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	32	9.7		mg/Kg	1	4/20/2020 5:40:16 PM	51939
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/20/2020 5:40:16 PM	51939
Surr: DNOP	81.3	55.1-146		%Rec	1	4/20/2020 5:40:16 PM	51939
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/21/2020 4:25:57 AM	51914
Surr: BFB	103	66.6-105		%Rec	1	4/21/2020 4:25:57 AM	51914
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	4/21/2020 4:25:57 AM	51914
Toluene	ND	0.049		mg/Kg	1	4/21/2020 4:25:57 AM	51914
Ethylbenzene	ND	0.049		mg/Kg	1	4/21/2020 4:25:57 AM	51914
Xylenes, Total	ND	0.098		mg/Kg	1	4/21/2020 4:25:57 AM	51914
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	4/21/2020 4:25:57 AM	51914

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
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 Limit

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-4'
Project: Abe Unit 2
Collection Date: 4/16/2020 9:00:00 AM
Lab ID: 2004814-005 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	14	9.7		mg/Kg	1	4/20/2020 6:05:18 PM	51939
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/20/2020 6:05:18 PM	51939
Surr: DNOP	78.9	55.1-146		%Rec	1	4/20/2020 6:05:18 PM	51939
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/21/2020 4:49:12 AM	51914
Surr: BFB	101	66.6-105		%Rec	1	4/21/2020 4:49:12 AM	51914
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	4/21/2020 4:49:12 AM	51914
Toluene	ND	0.048		mg/Kg	1	4/21/2020 4:49:12 AM	51914
Ethylbenzene	ND	0.048		mg/Kg	1	4/21/2020 4:49:12 AM	51914
Xylenes, Total	ND	0.097		mg/Kg	1	4/21/2020 4:49:12 AM	51914
Surr: 4-Bromofluorobenzene	99.5	80-120		%Rec	1	4/21/2020 4:49:12 AM	51914

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-0.5'
Project: Abe Unit 2
Collection Date: 4/16/2020 9:07:00 AM
Lab ID: 2004814-006 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	3600	150		mg/Kg	50	4/22/2020 2:21:55 PM	52000
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	560	7.3		mg/Kg	1	4/21/2020 2:50:14 PM	51939
Motor Oil Range Organics (MRO)	290	36		mg/Kg	1	4/21/2020 2:50:14 PM	51939
Surr: DNOP	109	55.1-146		%Rec	1	4/21/2020 2:50:14 PM	51939
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	25	D	mg/Kg	5	4/21/2020 8:26:37 AM	51914
Surr: BFB	107	66.6-105	SD	%Rec	5	4/21/2020 8:26:37 AM	51914
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.12	D	mg/Kg	5	4/21/2020 8:26:37 AM	51914
Toluene	ND	0.25	D	mg/Kg	5	4/21/2020 8:26:37 AM	51914
Ethylbenzene	ND	0.25	D	mg/Kg	5	4/21/2020 8:26:37 AM	51914
Xylenes, Total	ND	0.50	D	mg/Kg	5	4/21/2020 8:26:37 AM	51914
Surr: 4-Bromofluorobenzene	97.1	80-120	D	%Rec	5	4/21/2020 8:26:37 AM	51914

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-1'
Project: Abe Unit 2
Collection Date: 4/16/2020 9:09:00 AM
Lab ID: 2004814-007 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	590	60		mg/Kg	20	4/22/2020 12:18:04 AM	52000
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	41	8.3		mg/Kg	1	4/20/2020 6:55:25 PM	51939
Motor Oil Range Organics (MRO)	ND	41		mg/Kg	1	4/20/2020 6:55:25 PM	51939
Surr: DNOP	87.5	55.1-146		%Rec	1	4/20/2020 6:55:25 PM	51939
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/21/2020 8:50:20 AM	51914
Surr: BFB	97.5	66.6-105		%Rec	1	4/21/2020 8:50:20 AM	51914
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	4/21/2020 8:50:20 AM	51914
Toluene	ND	0.049		mg/Kg	1	4/21/2020 8:50:20 AM	51914
Ethylbenzene	ND	0.049		mg/Kg	1	4/21/2020 8:50:20 AM	51914
Xylenes, Total	ND	0.099		mg/Kg	1	4/21/2020 8:50:20 AM	51914
Surr: 4-Bromofluorobenzene	97.9	80-120		%Rec	1	4/21/2020 8:50:20 AM	51914

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-2'
Project: Abe Unit 2
Collection Date: 4/16/2020 9:11:00 AM
Lab ID: 2004814-008 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	4/22/2020 1:20:07 AM	52001
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/20/2020 7:20:09 PM	51939
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/20/2020 7:20:09 PM	51939
Surr: DNOP	86.3	55.1-146		%Rec	1	4/20/2020 7:20:09 PM	51939
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/21/2020 9:14:05 AM	51914
Surr: BFB	99.7	66.6-105		%Rec	1	4/21/2020 9:14:05 AM	51914
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	4/21/2020 9:14:05 AM	51914
Toluene	ND	0.050		mg/Kg	1	4/21/2020 9:14:05 AM	51914
Ethylbenzene	ND	0.050		mg/Kg	1	4/21/2020 9:14:05 AM	51914
Xylenes, Total	ND	0.099		mg/Kg	1	4/21/2020 9:14:05 AM	51914
Surr: 4-Bromofluorobenzene	97.5	80-120		%Rec	1	4/21/2020 9:14:05 AM	51914

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-3'
Project: Abe Unit 2
Collection Date: 4/16/2020 9:15:00 AM
Lab ID: 2004814-009 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	4/20/2020 7:45:09 PM	51939
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	4/20/2020 7:45:09 PM	51939
Surr: DNOP	82.3	55.1-146		%Rec	1	4/20/2020 7:45:09 PM	51939
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/21/2020 9:37:42 AM	51914
Surr: BFB	99.8	66.6-105		%Rec	1	4/21/2020 9:37:42 AM	51914
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	4/21/2020 9:37:42 AM	51914
Toluene	ND	0.050		mg/Kg	1	4/21/2020 9:37:42 AM	51914
Ethylbenzene	ND	0.050		mg/Kg	1	4/21/2020 9:37:42 AM	51914
Xylenes, Total	ND	0.099		mg/Kg	1	4/21/2020 9:37:42 AM	51914
Surr: 4-Bromofluorobenzene	98.1	80-120		%Rec	1	4/21/2020 9:37:42 AM	51914

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-0.5'
Project: Abe Unit 2
Collection Date: 4/16/2020 9:40:00 AM
Lab ID: 2004814-010 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	510	60		mg/Kg	20	4/22/2020 1:57:21 AM	52001
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	1000	48		mg/Kg	5	4/21/2020 5:42:01 PM	51939
Motor Oil Range Organics (MRO)	440	240		mg/Kg	5	4/21/2020 5:42:01 PM	51939
Surr: DNOP	93.4	55.1-146		%Rec	5	4/21/2020 5:42:01 PM	51939
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	25	D	mg/Kg	5	4/21/2020 10:01:15 AM	51914
Surr: BFB	118	66.6-105	SD	%Rec	5	4/21/2020 10:01:15 AM	51914
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.12	D	mg/Kg	5	4/21/2020 10:01:15 AM	51914
Toluene	ND	0.25	D	mg/Kg	5	4/21/2020 10:01:15 AM	51914
Ethylbenzene	ND	0.25	D	mg/Kg	5	4/21/2020 10:01:15 AM	51914
Xylenes, Total	ND	0.50	D	mg/Kg	5	4/21/2020 10:01:15 AM	51914
Surr: 4-Bromofluorobenzene	98.2	80-120	D	%Rec	5	4/21/2020 10:01:15 AM	51914

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-1'
Project: Abe Unit 2
Collection Date: 4/16/2020 9:44:00 AM
Lab ID: 2004814-011 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/20/2020 8:34:41 PM	51939
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/20/2020 8:34:41 PM	51939
Surr: DNOP	85.3	55.1-146		%Rec	1	4/20/2020 8:34:41 PM	51939
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/21/2020 10:24:41 AM	51914
Surr: BFB	99.8	66.6-105		%Rec	1	4/21/2020 10:24:41 AM	51914
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	4/21/2020 10:24:41 AM	51914
Toluene	ND	0.050		mg/Kg	1	4/21/2020 10:24:41 AM	51914
Ethylbenzene	ND	0.050		mg/Kg	1	4/21/2020 10:24:41 AM	51914
Xylenes, Total	ND	0.10		mg/Kg	1	4/21/2020 10:24:41 AM	51914
Surr: 4-Bromofluorobenzene	99.5	80-120		%Rec	1	4/21/2020 10:24:41 AM	51914

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-2'
Project: Abe Unit 2
Collection Date: 4/16/2020 9:45:00 AM
Lab ID: 2004814-012 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	59		mg/Kg	20	4/22/2020 2:34:36 AM	52001
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/20/2020 9:48:52 PM	51940
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/20/2020 9:48:52 PM	51940
Surr: DNOP	83.8	55.1-146		%Rec	1	4/20/2020 9:48:52 PM	51940
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/21/2020 10:48:07 AM	51914
Surr: BFB	103	66.6-105		%Rec	1	4/21/2020 10:48:07 AM	51914
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	4/21/2020 10:48:07 AM	51914
Toluene	ND	0.050		mg/Kg	1	4/21/2020 10:48:07 AM	51914
Ethylbenzene	ND	0.050		mg/Kg	1	4/21/2020 10:48:07 AM	51914
Xylenes, Total	ND	0.099		mg/Kg	1	4/21/2020 10:48:07 AM	51914
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	4/21/2020 10:48:07 AM	51914

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-3'
Project: Abe Unit 2
Collection Date: 4/16/2020 9:47:00 AM
Lab ID: 2004814-013 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	4/20/2020 11:02:29 PM	51940
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/20/2020 11:02:29 PM	51940
Surr: DNOP	82.4	55.1-146		%Rec	1	4/20/2020 11:02:29 PM	51940
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/21/2020 11:11:29 AM	51914
Surr: BFB	102	66.6-105		%Rec	1	4/21/2020 11:11:29 AM	51914
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	4/21/2020 11:11:29 AM	51914
Toluene	ND	0.049		mg/Kg	1	4/21/2020 11:11:29 AM	51914
Ethylbenzene	ND	0.049		mg/Kg	1	4/21/2020 11:11:29 AM	51914
Xylenes, Total	ND	0.099		mg/Kg	1	4/21/2020 11:11:29 AM	51914
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	4/21/2020 11:11:29 AM	51914

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L4-0.5'
Project: Abe Unit 2
Collection Date: 4/16/2020 9:55:00 AM
Lab ID: 2004814-014 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	1500	60		mg/Kg	20	4/22/2020 2:47:00 AM	52001
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	990	46		mg/Kg	5	4/21/2020 6:06:32 PM	51940
Motor Oil Range Organics (MRO)	490	230		mg/Kg	5	4/21/2020 6:06:32 PM	51940
Surr: DNOP	86.8	55.1-146		%Rec	5	4/21/2020 6:06:32 PM	51940
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	25	D	mg/Kg	5	4/21/2020 11:34:50 AM	51914
Surr: BFB	105	66.6-105	SD	%Rec	5	4/21/2020 11:34:50 AM	51914
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.12	D	mg/Kg	5	4/21/2020 11:34:50 AM	51914
Toluene	ND	0.25	D	mg/Kg	5	4/21/2020 11:34:50 AM	51914
Ethylbenzene	ND	0.25	D	mg/Kg	5	4/21/2020 11:34:50 AM	51914
Xylenes, Total	ND	0.49	D	mg/Kg	5	4/21/2020 11:34:50 AM	51914
Surr: 4-Bromofluorobenzene	101	80-120	D	%Rec	5	4/21/2020 11:34:50 AM	51914

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L4-1'
Project: Abe Unit 2
Collection Date: 4/16/2020 9:57:00 AM
Lab ID: 2004814-015 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	73	60		mg/Kg	20	4/22/2020 2:59:25 AM	52001
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	120	10		mg/Kg	1	4/21/2020 12:15:47 AM	51940
Motor Oil Range Organics (MRO)	64	50		mg/Kg	1	4/21/2020 12:15:47 AM	51940
Surr: DNOP	107	55.1-146		%Rec	1	4/21/2020 12:15:47 AM	51940
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	25	D	mg/Kg	5	4/21/2020 11:58:15 AM	51914
Surr: BFB	99.8	66.6-105	D	%Rec	5	4/21/2020 11:58:15 AM	51914
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.12	D	mg/Kg	5	4/21/2020 11:58:15 AM	51914
Toluene	ND	0.25	D	mg/Kg	5	4/21/2020 11:58:15 AM	51914
Ethylbenzene	ND	0.25	D	mg/Kg	5	4/21/2020 11:58:15 AM	51914
Xylenes, Total	ND	0.50	D	mg/Kg	5	4/21/2020 11:58:15 AM	51914
Surr: 4-Bromofluorobenzene	101	80-120	D	%Rec	5	4/21/2020 11:58:15 AM	51914

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L4-2'
Project: Abe Unit 2
Collection Date: 4/16/2020 9:59:00 AM
Lab ID: 2004814-016 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	28	10		mg/Kg	1	4/21/2020 12:40:14 AM	51940
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/21/2020 12:40:14 AM	51940
Surr: DNOP	92.8	55.1-146		%Rec	1	4/21/2020 12:40:14 AM	51940
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/21/2020 1:08:25 PM	51914
Surr: BFB	101	66.6-105		%Rec	1	4/21/2020 1:08:25 PM	51914
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	4/21/2020 1:08:25 PM	51914
Toluene	ND	0.049		mg/Kg	1	4/21/2020 1:08:25 PM	51914
Ethylbenzene	ND	0.049		mg/Kg	1	4/21/2020 1:08:25 PM	51914
Xylenes, Total	ND	0.098		mg/Kg	1	4/21/2020 1:08:25 PM	51914
Surr: 4-Bromofluorobenzene	97.5	80-120		%Rec	1	4/21/2020 1:08:25 PM	51914

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L4-3'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:02:00 AM
Lab ID: 2004814-017 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	25	D	mg/Kg	5	4/21/2020 8:48:15 PM	51923
Surr: BFB	99.5	70-130	D	%Rec	5	4/21/2020 8:48:15 PM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	130	9.6		mg/Kg	1	4/21/2020 1:04:35 AM	51940
Motor Oil Range Organics (MRO)	71	48		mg/Kg	1	4/21/2020 1:04:35 AM	51940
Surr: DNOP	92.7	55.1-146		%Rec	1	4/21/2020 1:04:35 AM	51940
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.12	D	mg/Kg	5	4/21/2020 8:48:15 PM	51923
Toluene	ND	0.25	D	mg/Kg	5	4/21/2020 8:48:15 PM	51923
Ethylbenzene	ND	0.25	D	mg/Kg	5	4/21/2020 8:48:15 PM	51923
Xylenes, Total	ND	0.49	D	mg/Kg	5	4/21/2020 8:48:15 PM	51923
Surr: 1,2-Dichloroethane-d4	97.9	70-130	D	%Rec	5	4/21/2020 8:48:15 PM	51923
Surr: 4-Bromofluorobenzene	96.8	70-130	D	%Rec	5	4/21/2020 8:48:15 PM	51923
Surr: Dibromofluoromethane	99.6	70-130	D	%Rec	5	4/21/2020 8:48:15 PM	51923
Surr: Toluene-d8	98.0	70-130	D	%Rec	5	4/21/2020 8:48:15 PM	51923

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L5-0.5'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:09:00 AM
Lab ID: 2004814-018 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	750	61		mg/Kg	20	4/22/2020 3:11:50 AM	52001
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	100	50		mg/Kg	10	4/21/2020 10:14:28 PM	51923
Surr: BFB	103	70-130		%Rec	10	4/21/2020 10:14:28 PM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	5800	87		mg/Kg	10	4/21/2020 1:29:03 AM	51940
Motor Oil Range Organics (MRO)	2500	440		mg/Kg	10	4/21/2020 1:29:03 AM	51940
Surr: DNOP	0	55.1-146	S	%Rec	10	4/21/2020 1:29:03 AM	51940
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.25	D	mg/Kg	10	4/21/2020 10:14:28 PM	51923
Toluene	ND	0.50	D	mg/Kg	10	4/21/2020 10:14:28 PM	51923
Ethylbenzene	ND	0.50	D	mg/Kg	10	4/21/2020 10:14:28 PM	51923
Xylenes, Total	1.7	0.99	D	mg/Kg	10	4/21/2020 10:14:28 PM	51923
Surr: 1,2-Dichloroethane-d4	97.5	70-130	D	%Rec	10	4/21/2020 10:14:28 PM	51923
Surr: 4-Bromofluorobenzene	73.1	70-130	D	%Rec	10	4/21/2020 10:14:28 PM	51923
Surr: Dibromofluoromethane	101	70-130	D	%Rec	10	4/21/2020 10:14:28 PM	51923
Surr: Toluene-d8	101	70-130	D	%Rec	10	4/21/2020 10:14:28 PM	51923

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L5-1'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:12:00 AM
Lab ID: 2004814-019 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	59		mg/Kg	20	4/22/2020 3:49:04 AM	52001
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	25	D	mg/Kg	5	4/21/2020 10:43:10 PM	51923
Surr: BFB	101	70-130	D	%Rec	5	4/21/2020 10:43:10 PM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	190	10		mg/Kg	1	4/21/2020 3:39:12 PM	51940
Motor Oil Range Organics (MRO)	100	51		mg/Kg	1	4/21/2020 3:39:12 PM	51940
Surr: DNOP	94.4	55.1-146		%Rec	1	4/21/2020 3:39:12 PM	51940
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.12	D	mg/Kg	5	4/21/2020 10:43:10 PM	51923
Toluene	ND	0.25	D	mg/Kg	5	4/21/2020 10:43:10 PM	51923
Ethylbenzene	ND	0.25	D	mg/Kg	5	4/21/2020 10:43:10 PM	51923
Xylenes, Total	ND	0.49	D	mg/Kg	5	4/21/2020 10:43:10 PM	51923
Surr: 1,2-Dichloroethane-d4	97.6	70-130	D	%Rec	5	4/21/2020 10:43:10 PM	51923
Surr: 4-Bromofluorobenzene	95.8	70-130	D	%Rec	5	4/21/2020 10:43:10 PM	51923
Surr: Dibromofluoromethane	100	70-130	D	%Rec	5	4/21/2020 10:43:10 PM	51923
Surr: Toluene-d8	103	70-130	D	%Rec	5	4/21/2020 10:43:10 PM	51923

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L5-2'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:13:00 AM
Lab ID: 2004814-020 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/21/2020 11:11:51 PM	51923
Surr: BFB	97.4	70-130		%Rec	1	4/21/2020 11:11:51 PM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	28	8.7		mg/Kg	1	4/21/2020 2:17:45 AM	51940
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/21/2020 2:17:45 AM	51940
Surr: DNOP	90.5	55.1-146		%Rec	1	4/21/2020 2:17:45 AM	51940
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	4/21/2020 11:11:51 PM	51923
Toluene	ND	0.049		mg/Kg	1	4/21/2020 11:11:51 PM	51923
Ethylbenzene	ND	0.049		mg/Kg	1	4/21/2020 11:11:51 PM	51923
Xylenes, Total	ND	0.099		mg/Kg	1	4/21/2020 11:11:51 PM	51923
Surr: 1,2-Dichloroethane-d4	94.7	70-130		%Rec	1	4/21/2020 11:11:51 PM	51923
Surr: 4-Bromofluorobenzene	94.9	70-130		%Rec	1	4/21/2020 11:11:51 PM	51923
Surr: Dibromofluoromethane	101	70-130		%Rec	1	4/21/2020 11:11:51 PM	51923
Surr: Toluene-d8	99.4	70-130		%Rec	1	4/21/2020 11:11:51 PM	51923

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L5-3'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:15:00 AM
Lab ID: 2004814-021 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/21/2020 11:40:29 PM	51923
Surr: BFB	97.9	70-130		%Rec	1	4/21/2020 11:40:29 PM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	44	10		mg/Kg	1	4/21/2020 2:42:02 AM	51940
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/21/2020 2:42:02 AM	51940
Surr: DNOP	90.6	55.1-146		%Rec	1	4/21/2020 2:42:02 AM	51940
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.024		mg/Kg	1	4/21/2020 11:40:29 PM	51923
Toluene	ND	0.048		mg/Kg	1	4/21/2020 11:40:29 PM	51923
Ethylbenzene	ND	0.048		mg/Kg	1	4/21/2020 11:40:29 PM	51923
Xylenes, Total	ND	0.097		mg/Kg	1	4/21/2020 11:40:29 PM	51923
Surr: 1,2-Dichloroethane-d4	96.0	70-130		%Rec	1	4/21/2020 11:40:29 PM	51923
Surr: 4-Bromofluorobenzene	96.0	70-130		%Rec	1	4/21/2020 11:40:29 PM	51923
Surr: Dibromofluoromethane	100	70-130		%Rec	1	4/21/2020 11:40:29 PM	51923
Surr: Toluene-d8	98.6	70-130		%Rec	1	4/21/2020 11:40:29 PM	51923

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L6-0.5'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:26:00 AM
Lab ID: 2004814-022 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	2700	150		mg/Kg	50	4/22/2020 2:59:09 PM	52001
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	24	D	mg/Kg	5	4/22/2020 12:09:06 AM	51923
Surr: BFB	99.8	70-130	D	%Rec	5	4/22/2020 12:09:06 AM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	830	19		mg/Kg	2	4/21/2020 6:31:19 PM	51940
Motor Oil Range Organics (MRO)	350	96		mg/Kg	2	4/21/2020 6:31:19 PM	51940
Surr: DNOP	92.1	55.1-146		%Rec	2	4/21/2020 6:31:19 PM	51940
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.12	D	mg/Kg	5	4/22/2020 12:09:06 AM	51923
Toluene	ND	0.24	D	mg/Kg	5	4/22/2020 12:09:06 AM	51923
Ethylbenzene	ND	0.24	D	mg/Kg	5	4/22/2020 12:09:06 AM	51923
Xylenes, Total	ND	0.48	D	mg/Kg	5	4/22/2020 12:09:06 AM	51923
Surr: 1,2-Dichloroethane-d4	100	70-130	D	%Rec	5	4/22/2020 12:09:06 AM	51923
Surr: 4-Bromofluorobenzene	85.9	70-130	D	%Rec	5	4/22/2020 12:09:06 AM	51923
Surr: Dibromofluoromethane	103	70-130	D	%Rec	5	4/22/2020 12:09:06 AM	51923
Surr: Toluene-d8	98.1	70-130	D	%Rec	5	4/22/2020 12:09:06 AM	51923

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
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 Limit

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L6-1'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:30:00 AM
Lab ID: 2004814-023 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	88	60		mg/Kg	20	4/22/2020 4:13:53 AM	52001
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	25	D	mg/Kg	5	4/22/2020 12:37:51 AM	51923
Surr: BFB	101	70-130	D	%Rec	5	4/22/2020 12:37:51 AM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	190	9.6		mg/Kg	1	4/21/2020 3:30:49 AM	51940
Motor Oil Range Organics (MRO)	96	48		mg/Kg	1	4/21/2020 3:30:49 AM	51940
Surr: DNOP	100	55.1-146		%Rec	1	4/21/2020 3:30:49 AM	51940
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.12	D	mg/Kg	5	4/22/2020 12:37:51 AM	51923
Toluene	ND	0.25	D	mg/Kg	5	4/22/2020 12:37:51 AM	51923
Ethylbenzene	ND	0.25	D	mg/Kg	5	4/22/2020 12:37:51 AM	51923
Xylenes, Total	ND	0.50	D	mg/Kg	5	4/22/2020 12:37:51 AM	51923
Surr: 1,2-Dichloroethane-d4	96.5	70-130	D	%Rec	5	4/22/2020 12:37:51 AM	51923
Surr: 4-Bromofluorobenzene	97.7	70-130	D	%Rec	5	4/22/2020 12:37:51 AM	51923
Surr: Dibromofluoromethane	100	70-130	D	%Rec	5	4/22/2020 12:37:51 AM	51923
Surr: Toluene-d8	101	70-130	D	%Rec	5	4/22/2020 12:37:51 AM	51923

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L6-2'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:32:00 AM
Lab ID: 2004814-024 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	25	D	mg/Kg	5	4/22/2020 3:30:25 AM	51923
Surr: BFB	101	70-130	D	%Rec	5	4/22/2020 3:30:25 AM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	260	8.7		mg/Kg	1	4/21/2020 3:55:12 AM	51940
Motor Oil Range Organics (MRO)	140	43		mg/Kg	1	4/21/2020 3:55:12 AM	51940
Surr: DNOP	93.9	55.1-146		%Rec	1	4/21/2020 3:55:12 AM	51940
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.12	D	mg/Kg	5	4/22/2020 3:30:25 AM	51923
Toluene	ND	0.25	D	mg/Kg	5	4/22/2020 3:30:25 AM	51923
Ethylbenzene	ND	0.25	D	mg/Kg	5	4/22/2020 3:30:25 AM	51923
Xylenes, Total	ND	0.50	D	mg/Kg	5	4/22/2020 3:30:25 AM	51923
Surr: 1,2-Dichloroethane-d4	97.0	70-130	D	%Rec	5	4/22/2020 3:30:25 AM	51923
Surr: 4-Bromofluorobenzene	92.3	70-130	D	%Rec	5	4/22/2020 3:30:25 AM	51923
Surr: Dibromofluoromethane	98.1	70-130	D	%Rec	5	4/22/2020 3:30:25 AM	51923
Surr: Toluene-d8	101	70-130	D	%Rec	5	4/22/2020 3:30:25 AM	51923

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
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 Limit

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L6-3'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:35:00 AM
Lab ID: 2004814-025 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/22/2020 3:59:07 AM	51923
Surr: BFB	97.9	70-130		%Rec	1	4/22/2020 3:59:07 AM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	38	9.0		mg/Kg	1	4/21/2020 4:19:30 AM	51940
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/21/2020 4:19:30 AM	51940
Surr: DNOP	91.5	55.1-146		%Rec	1	4/21/2020 4:19:30 AM	51940
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	4/22/2020 3:59:07 AM	51923
Toluene	ND	0.050		mg/Kg	1	4/22/2020 3:59:07 AM	51923
Ethylbenzene	ND	0.050		mg/Kg	1	4/22/2020 3:59:07 AM	51923
Xylenes, Total	ND	0.099		mg/Kg	1	4/22/2020 3:59:07 AM	51923
Surr: 1,2-Dichloroethane-d4	95.9	70-130		%Rec	1	4/22/2020 3:59:07 AM	51923
Surr: 4-Bromofluorobenzene	98.5	70-130		%Rec	1	4/22/2020 3:59:07 AM	51923
Surr: Dibromofluoromethane	101	70-130		%Rec	1	4/22/2020 3:59:07 AM	51923
Surr: Toluene-d8	97.8	70-130		%Rec	1	4/22/2020 3:59:07 AM	51923

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L6-4'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:37:00 AM
Lab ID: 2004814-026 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/22/2020 4:27:53 AM	51923
Surr: BFB	97.0	70-130		%Rec	1	4/22/2020 4:27:53 AM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	12	9.2		mg/Kg	1	4/21/2020 4:43:58 AM	51940
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/21/2020 4:43:58 AM	51940
Surr: DNOP	90.4	55.1-146		%Rec	1	4/21/2020 4:43:58 AM	51940
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	4/22/2020 4:27:53 AM	51923
Toluene	ND	0.049		mg/Kg	1	4/22/2020 4:27:53 AM	51923
Ethylbenzene	ND	0.049		mg/Kg	1	4/22/2020 4:27:53 AM	51923
Xylenes, Total	ND	0.099		mg/Kg	1	4/22/2020 4:27:53 AM	51923
Surr: 1,2-Dichloroethane-d4	94.4	70-130		%Rec	1	4/22/2020 4:27:53 AM	51923
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	4/22/2020 4:27:53 AM	51923
Surr: Dibromofluoromethane	97.8	70-130		%Rec	1	4/22/2020 4:27:53 AM	51923
Surr: Toluene-d8	97.0	70-130		%Rec	1	4/22/2020 4:27:53 AM	51923

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L7-0.5'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:42:00 AM
Lab ID: 2004814-027 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	1100	60		mg/Kg	20	4/22/2020 4:26:18 AM	52001
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	160	50		mg/Kg	10	4/22/2020 4:56:17 AM	51923
Surr: BFB	108	70-130		%Rec	10	4/22/2020 4:56:17 AM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	3400	78		mg/Kg	10	4/21/2020 5:08:15 AM	51940
Motor Oil Range Organics (MRO)	1500	390		mg/Kg	10	4/21/2020 5:08:15 AM	51940
Surr: DNOP	0	55.1-146	S	%Rec	10	4/21/2020 5:08:15 AM	51940
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.25	D	mg/Kg	10	4/22/2020 4:56:17 AM	51923
Toluene	ND	0.50	D	mg/Kg	10	4/22/2020 4:56:17 AM	51923
Ethylbenzene	ND	0.50	D	mg/Kg	10	4/22/2020 4:56:17 AM	51923
Xylenes, Total	2.2	1.0	D	mg/Kg	10	4/22/2020 4:56:17 AM	51923
Surr: 1,2-Dichloroethane-d4	94.6	70-130	D	%Rec	10	4/22/2020 4:56:17 AM	51923
Surr: 4-Bromofluorobenzene	61.0	70-130	SD	%Rec	10	4/22/2020 4:56:17 AM	51923
Surr: Dibromofluoromethane	98.2	70-130	D	%Rec	10	4/22/2020 4:56:17 AM	51923
Surr: Toluene-d8	99.8	70-130	D	%Rec	10	4/22/2020 4:56:17 AM	51923

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L7-1'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:44:00 AM
Lab ID: 2004814-028 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	59		mg/Kg	20	4/22/2020 4:38:42 AM	52001
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	25	D	mg/Kg	5	4/22/2020 5:24:51 AM	51923
Surr: BFB	99.6	70-130	D	%Rec	5	4/22/2020 5:24:51 AM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	180	9.3		mg/Kg	1	4/21/2020 5:32:43 AM	51940
Motor Oil Range Organics (MRO)	120	46		mg/Kg	1	4/21/2020 5:32:43 AM	51940
Surr: DNOP	98.2	55.1-146		%Rec	1	4/21/2020 5:32:43 AM	51940
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.12	D	mg/Kg	5	4/22/2020 5:24:51 AM	51923
Toluene	ND	0.25	D	mg/Kg	5	4/22/2020 5:24:51 AM	51923
Ethylbenzene	ND	0.25	D	mg/Kg	5	4/22/2020 5:24:51 AM	51923
Xylenes, Total	ND	0.49	D	mg/Kg	5	4/22/2020 5:24:51 AM	51923
Surr: 1,2-Dichloroethane-d4	97.2	70-130	D	%Rec	5	4/22/2020 5:24:51 AM	51923
Surr: 4-Bromofluorobenzene	100	70-130	D	%Rec	5	4/22/2020 5:24:51 AM	51923
Surr: Dibromofluoromethane	100	70-130	D	%Rec	5	4/22/2020 5:24:51 AM	51923
Surr: Toluene-d8	96.9	70-130	D	%Rec	5	4/22/2020 5:24:51 AM	51923

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L7-2'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:46:00 AM
Lab ID: 2004814-029 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/22/2020 5:53:19 AM	51923
Surr: BFB	99.6	70-130		%Rec	1	4/22/2020 5:53:19 AM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	20	9.7		mg/Kg	1	4/21/2020 5:56:55 AM	51940
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/21/2020 5:56:55 AM	51940
Surr: DNOP	88.8	55.1-146		%Rec	1	4/21/2020 5:56:55 AM	51940
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	4/22/2020 5:53:19 AM	51923
Toluene	ND	0.049		mg/Kg	1	4/22/2020 5:53:19 AM	51923
Ethylbenzene	ND	0.049		mg/Kg	1	4/22/2020 5:53:19 AM	51923
Xylenes, Total	ND	0.099		mg/Kg	1	4/22/2020 5:53:19 AM	51923
Surr: 1,2-Dichloroethane-d4	94.6	70-130		%Rec	1	4/22/2020 5:53:19 AM	51923
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	4/22/2020 5:53:19 AM	51923
Surr: Dibromofluoromethane	97.0	70-130		%Rec	1	4/22/2020 5:53:19 AM	51923
Surr: Toluene-d8	97.5	70-130		%Rec	1	4/22/2020 5:53:19 AM	51923

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
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 Limit

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L7-3'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:48:00 AM
Lab ID: 2004814-030 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/22/2020 6:21:52 AM	51923
Surr: BFB	99.0	70-130		%Rec	1	4/22/2020 6:21:52 AM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	38	9.7		mg/Kg	1	4/21/2020 6:21:15 AM	51940
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/21/2020 6:21:15 AM	51940
Surr: DNOP	90.2	55.1-146		%Rec	1	4/21/2020 6:21:15 AM	51940
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	4/22/2020 6:21:52 AM	51923
Toluene	ND	0.050		mg/Kg	1	4/22/2020 6:21:52 AM	51923
Ethylbenzene	ND	0.050		mg/Kg	1	4/22/2020 6:21:52 AM	51923
Xylenes, Total	ND	0.10		mg/Kg	1	4/22/2020 6:21:52 AM	51923
Surr: 1,2-Dichloroethane-d4	93.4	70-130		%Rec	1	4/22/2020 6:21:52 AM	51923
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	4/22/2020 6:21:52 AM	51923
Surr: Dibromofluoromethane	97.9	70-130		%Rec	1	4/22/2020 6:21:52 AM	51923
Surr: Toluene-d8	95.8	70-130		%Rec	1	4/22/2020 6:21:52 AM	51923

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L7-4'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:50:00 AM
Lab ID: 2004814-031 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/22/2020 6:50:23 AM	51923
Surr: BFB	99.3	70-130		%Rec	1	4/22/2020 6:50:23 AM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	18	9.2		mg/Kg	1	4/21/2020 6:45:28 AM	51940
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/21/2020 6:45:28 AM	51940
Surr: DNOP	89.3	55.1-146		%Rec	1	4/21/2020 6:45:28 AM	51940
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.024		mg/Kg	1	4/22/2020 6:50:23 AM	51923
Toluene	ND	0.049		mg/Kg	1	4/22/2020 6:50:23 AM	51923
Ethylbenzene	ND	0.049		mg/Kg	1	4/22/2020 6:50:23 AM	51923
Xylenes, Total	ND	0.098		mg/Kg	1	4/22/2020 6:50:23 AM	51923
Surr: 1,2-Dichloroethane-d4	93.8	70-130		%Rec	1	4/22/2020 6:50:23 AM	51923
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/22/2020 6:50:23 AM	51923
Surr: Dibromofluoromethane	97.9	70-130		%Rec	1	4/22/2020 6:50:23 AM	51923
Surr: Toluene-d8	97.0	70-130		%Rec	1	4/22/2020 6:50:23 AM	51923

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L8-0.5'
Project: Abe Unit 2
Collection Date: 4/16/2020 11:10:00 AM
Lab ID: 2004814-032 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	1700	60		mg/Kg	20	4/22/2020 4:51:07 AM	52001
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	420	50		mg/Kg	10	4/22/2020 7:18:56 AM	51923
Surr: BFB	107	70-130		%Rec	10	4/22/2020 7:18:56 AM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	8000	90		mg/Kg	10	4/20/2020 9:52:54 PM	51945
Motor Oil Range Organics (MRO)	3800	450		mg/Kg	10	4/20/2020 9:52:54 PM	51945
Surr: DNOP	0	55.1-146	S	%Rec	10	4/20/2020 9:52:54 PM	51945
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.25	D	mg/Kg	10	4/22/2020 7:18:56 AM	51923
Toluene	0.72	0.50	D	mg/Kg	10	4/22/2020 7:18:56 AM	51923
Ethylbenzene	2.7	0.50	D	mg/Kg	10	4/22/2020 7:18:56 AM	51923
Xylenes, Total	12	0.99	D	mg/Kg	10	4/22/2020 7:18:56 AM	51923
Surr: 1,2-Dichloroethane-d4	95.2	70-130	D	%Rec	10	4/22/2020 7:18:56 AM	51923
Surr: 4-Bromofluorobenzene	59.5	70-130	SD	%Rec	10	4/22/2020 7:18:56 AM	51923
Surr: Dibromofluoromethane	102	70-130	D	%Rec	10	4/22/2020 7:18:56 AM	51923
Surr: Toluene-d8	95.7	70-130	D	%Rec	10	4/22/2020 7:18:56 AM	51923

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
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 Limit

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L8-1'
Project: Abe Unit 2
Collection Date: 4/16/2020 11:12:00 AM
Lab ID: 2004814-033 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	ND	60		mg/Kg	20	4/22/2020 5:03:32 AM	52001
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	25	D	mg/Kg	5	4/22/2020 7:47:25 AM	51923
Surr: BFB	102	70-130	D	%Rec	5	4/22/2020 7:47:25 AM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	190	9.7		mg/Kg	1	4/21/2020 4:28:18 PM	51945
Motor Oil Range Organics (MRO)	110	48		mg/Kg	1	4/21/2020 4:28:18 PM	51945
Surr: DNOP	110	55.1-146		%Rec	1	4/21/2020 4:28:18 PM	51945
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.12	D	mg/Kg	5	4/22/2020 7:47:25 AM	51923
Toluene	ND	0.25	D	mg/Kg	5	4/22/2020 7:47:25 AM	51923
Ethylbenzene	ND	0.25	D	mg/Kg	5	4/22/2020 7:47:25 AM	51923
Xylenes, Total	ND	0.50	D	mg/Kg	5	4/22/2020 7:47:25 AM	51923
Surr: 1,2-Dichloroethane-d4	96.7	70-130	D	%Rec	5	4/22/2020 7:47:25 AM	51923
Surr: 4-Bromofluorobenzene	98.8	70-130	D	%Rec	5	4/22/2020 7:47:25 AM	51923
Surr: Dibromofluoromethane	98.4	70-130	D	%Rec	5	4/22/2020 7:47:25 AM	51923
Surr: Toluene-d8	99.7	70-130	D	%Rec	5	4/22/2020 7:47:25 AM	51923

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
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 Limit

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L8-2'
Project: Abe Unit 2
Collection Date: 4/16/2020 11:15:00 AM
Lab ID: 2004814-034 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	25	D	mg/Kg	5	4/22/2020 8:15:55 AM	51923
Surr: BFB	101	70-130	D	%Rec	5	4/22/2020 8:15:55 AM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	270	9.2		mg/Kg	1	4/20/2020 11:05:31 PM	51945
Motor Oil Range Organics (MRO)	190	46		mg/Kg	1	4/20/2020 11:05:31 PM	51945
Surr: DNOP	97.5	55.1-146		%Rec	1	4/20/2020 11:05:31 PM	51945
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.12	D	mg/Kg	5	4/22/2020 8:15:55 AM	51923
Toluene	ND	0.25	D	mg/Kg	5	4/22/2020 8:15:55 AM	51923
Ethylbenzene	ND	0.25	D	mg/Kg	5	4/22/2020 8:15:55 AM	51923
Xylenes, Total	ND	0.50	D	mg/Kg	5	4/22/2020 8:15:55 AM	51923
Surr: 1,2-Dichloroethane-d4	98.8	70-130	D	%Rec	5	4/22/2020 8:15:55 AM	51923
Surr: 4-Bromofluorobenzene	92.8	70-130	D	%Rec	5	4/22/2020 8:15:55 AM	51923
Surr: Dibromofluoromethane	101	70-130	D	%Rec	5	4/22/2020 8:15:55 AM	51923
Surr: Toluene-d8	97.5	70-130	D	%Rec	5	4/22/2020 8:15:55 AM	51923

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L8-3'
Project: Abe Unit 2
Collection Date: 4/16/2020 11:17:00 AM
Lab ID: 2004814-035 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/22/2020 8:44:34 AM	51923
Surr: BFB	98.4	70-130		%Rec	1	4/22/2020 8:44:34 AM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	24	9.3		mg/Kg	1	4/20/2020 11:29:52 PM	51945
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/20/2020 11:29:52 PM	51945
Surr: DNOP	91.1	55.1-146		%Rec	1	4/20/2020 11:29:52 PM	51945
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	4/22/2020 8:44:34 AM	51923
Toluene	ND	0.049		mg/Kg	1	4/22/2020 8:44:34 AM	51923
Ethylbenzene	ND	0.049		mg/Kg	1	4/22/2020 8:44:34 AM	51923
Xylenes, Total	ND	0.098		mg/Kg	1	4/22/2020 8:44:34 AM	51923
Surr: 1,2-Dichloroethane-d4	96.1	70-130		%Rec	1	4/22/2020 8:44:34 AM	51923
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/22/2020 8:44:34 AM	51923
Surr: Dibromofluoromethane	101	70-130		%Rec	1	4/22/2020 8:44:34 AM	51923
Surr: Toluene-d8	96.4	70-130		%Rec	1	4/22/2020 8:44:34 AM	51923

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L8-4'
Project: Abe Unit 2
Collection Date: 4/16/2020 11:20:00 AM
Lab ID: 2004814-036 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	25	D	mg/Kg	5	4/22/2020 9:13:13 AM	51923
Surr: BFB	99.9	70-130	D	%Rec	5	4/22/2020 9:13:13 AM	51923
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	140	9.3		mg/Kg	1	4/20/2020 11:53:58 PM	51945
Motor Oil Range Organics (MRO)	99	47		mg/Kg	1	4/20/2020 11:53:58 PM	51945
Surr: DNOP	91.0	55.1-146		%Rec	1	4/20/2020 11:53:58 PM	51945
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.12	D	mg/Kg	5	4/22/2020 9:13:13 AM	51923
Toluene	ND	0.25	D	mg/Kg	5	4/22/2020 9:13:13 AM	51923
Ethylbenzene	ND	0.25	D	mg/Kg	5	4/22/2020 9:13:13 AM	51923
Xylenes, Total	ND	0.50	D	mg/Kg	5	4/22/2020 9:13:13 AM	51923
Surr: 1,2-Dichloroethane-d4	96.1	70-130	D	%Rec	5	4/22/2020 9:13:13 AM	51923
Surr: 4-Bromofluorobenzene	100	70-130	D	%Rec	5	4/22/2020 9:13:13 AM	51923
Surr: Dibromofluoromethane	98.5	70-130	D	%Rec	5	4/22/2020 9:13:13 AM	51923
Surr: Toluene-d8	95.7	70-130	D	%Rec	5	4/22/2020 9:13:13 AM	51923

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L9-0.5'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:52:00 AM
Lab ID: 2004814-037 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	4000	150		mg/Kg	50	4/22/2020 3:11:33 PM	52001
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	1700	100		mg/Kg	20	4/22/2020 2:49:27 PM	51926
Surr: BFB	112	70-130		%Rec	20	4/22/2020 2:49:27 PM	51926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	15000	820		mg/Kg	100	4/21/2020 7:44:47 PM	51945
Motor Oil Range Organics (MRO)	5700	4100		mg/Kg	100	4/21/2020 7:44:47 PM	51945
Surr: DNOP	0	55.1-146	S	%Rec	100	4/21/2020 7:44:47 PM	51945
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	0.50	0.50		mg/Kg	20	4/22/2020 2:49:27 PM	51926
Toluene	12	1.0		mg/Kg	20	4/22/2020 2:49:27 PM	51926
Ethylbenzene	13	1.0		mg/Kg	20	4/22/2020 2:49:27 PM	51926
Xylenes, Total	48	2.0		mg/Kg	20	4/22/2020 2:49:27 PM	51926
Surr: 1,2-Dichloroethane-d4	97.0	70-130		%Rec	20	4/22/2020 2:49:27 PM	51926
Surr: 4-Bromofluorobenzene	58.1	70-130	S	%Rec	20	4/22/2020 2:49:27 PM	51926
Surr: Dibromofluoromethane	99.7	70-130		%Rec	20	4/22/2020 2:49:27 PM	51926
Surr: Toluene-d8	97.8	70-130		%Rec	20	4/22/2020 2:49:27 PM	51926

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
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 Limit

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L9-1'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:54:00 AM
Lab ID: 2004814-038 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	5900	300		mg/Kg	100	4/22/2020 3:23:58 PM	52001
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	10		mg/Kg	2	4/23/2020 8:00:24 AM	51926
Surr: BFB	96.7	70-130		%Rec	2	4/23/2020 8:00:24 AM	51926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	110	9.8		mg/Kg	1	4/21/2020 4:52:48 PM	51945
Motor Oil Range Organics (MRO)	60	49		mg/Kg	1	4/21/2020 4:52:48 PM	51945
Surr: DNOP	99.1	55.1-146		%Rec	1	4/21/2020 4:52:48 PM	51945
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.050		mg/Kg	2	4/23/2020 8:00:24 AM	51926
Toluene	ND	0.10		mg/Kg	2	4/23/2020 8:00:24 AM	51926
Ethylbenzene	ND	0.10		mg/Kg	2	4/23/2020 8:00:24 AM	51926
Xylenes, Total	ND	0.20		mg/Kg	2	4/23/2020 8:00:24 AM	51926
Surr: 1,2-Dichloroethane-d4	92.8	70-130		%Rec	2	4/23/2020 8:00:24 AM	51926
Surr: 4-Bromofluorobenzene	97.2	70-130		%Rec	2	4/23/2020 8:00:24 AM	51926
Surr: Dibromofluoromethane	99.8	70-130		%Rec	2	4/23/2020 8:00:24 AM	51926
Surr: Toluene-d8	95.0	70-130		%Rec	2	4/23/2020 8:00:24 AM	51926

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L9-3'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:58:00 AM
Lab ID: 2004814-039 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/22/2020 4:43:52 PM	51926
Surr: BFB	100	70-130		%Rec	1	4/22/2020 4:43:52 PM	51926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	70	9.1		mg/Kg	1	4/21/2020 1:06:31 AM	51945
Motor Oil Range Organics (MRO)	62	46		mg/Kg	1	4/21/2020 1:06:31 AM	51945
Surr: DNOP	92.4	55.1-146		%Rec	1	4/21/2020 1:06:31 AM	51945
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	4/22/2020 4:43:52 PM	51926
Toluene	ND	0.049		mg/Kg	1	4/22/2020 4:43:52 PM	51926
Ethylbenzene	ND	0.049		mg/Kg	1	4/22/2020 4:43:52 PM	51926
Xylenes, Total	ND	0.099		mg/Kg	1	4/22/2020 4:43:52 PM	51926
Surr: 1,2-Dichloroethane-d4	94.4	70-130		%Rec	1	4/22/2020 4:43:52 PM	51926
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/22/2020 4:43:52 PM	51926
Surr: Dibromofluoromethane	98.2	70-130		%Rec	1	4/22/2020 4:43:52 PM	51926
Surr: Toluene-d8	96.7	70-130		%Rec	1	4/22/2020 4:43:52 PM	51926

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L9-4'
Project: Abe Unit 2
Collection Date: 4/16/2020 11:07:00 AM
Lab ID: 2004814-040 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/22/2020 5:12:28 PM	51926
Surr: BFB	95.8	70-130		%Rec	1	4/22/2020 5:12:28 PM	51926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	12	9.9		mg/Kg	1	4/21/2020 1:30:34 AM	51945
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/21/2020 1:30:34 AM	51945
Surr: DNOP	98.3	55.1-146		%Rec	1	4/21/2020 1:30:34 AM	51945
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.024		mg/Kg	1	4/22/2020 5:12:28 PM	51926
Toluene	ND	0.049		mg/Kg	1	4/22/2020 5:12:28 PM	51926
Ethylbenzene	ND	0.049		mg/Kg	1	4/22/2020 5:12:28 PM	51926
Xylenes, Total	ND	0.098		mg/Kg	1	4/22/2020 5:12:28 PM	51926
Surr: 1,2-Dichloroethane-d4	91.9	70-130		%Rec	1	4/22/2020 5:12:28 PM	51926
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	1	4/22/2020 5:12:28 PM	51926
Surr: Dibromofluoromethane	100	70-130		%Rec	1	4/22/2020 5:12:28 PM	51926
Surr: Toluene-d8	96.4	70-130		%Rec	1	4/22/2020 5:12:28 PM	51926

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

Qualifiers:

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

Analytical Report
Lab Order **2004814**
Date Reported: **4/24/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L9-2'
Project: Abe Unit 2
Collection Date: 4/16/2020 10:56:00 AM
Lab ID: 2004814-041 **Matrix:** SOIL **Received Date:** 4/17/2020 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	180	60		mg/Kg	20	4/22/2020 5:40:44 AM	52001
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/22/2020 5:40:57 PM	51926
Surr: BFB	99.6	70-130		%Rec	1	4/22/2020 5:40:57 PM	51926
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/21/2020 1:54:45 AM	51945
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/21/2020 1:54:45 AM	51945
Surr: DNOP	98.3	55.1-146		%Rec	1	4/21/2020 1:54:45 AM	51945
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	4/22/2020 5:40:57 PM	51926
Toluene	ND	0.050		mg/Kg	1	4/22/2020 5:40:57 PM	51926
Ethylbenzene	ND	0.050		mg/Kg	1	4/22/2020 5:40:57 PM	51926
Xylenes, Total	ND	0.10		mg/Kg	1	4/22/2020 5:40:57 PM	51926
Surr: 1,2-Dichloroethane-d4	93.4	70-130		%Rec	1	4/22/2020 5:40:57 PM	51926
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/22/2020 5:40:57 PM	51926
Surr: Dibromofluoromethane	99.1	70-130		%Rec	1	4/22/2020 5:40:57 PM	51926
Surr: Toluene-d8	97.6	70-130		%Rec	1	4/22/2020 5:40:57 PM	51926

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004814**

24-Apr-20

Client: Souder, Miller & Associates

Project: Abe Unit 2

Sample ID: **MB-52000**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **52000**	RunNo: **68314**							
Prep Date: **4/21/2020**	Analysis Date: **4/21/2020**	SeqNo: **2363518**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-52000**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **52000**	RunNo: **68314**							
Prep Date: **4/21/2020**	Analysis Date: **4/21/2020**	SeqNo: **2363519**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.5	90	110			

Sample ID: **MB-52001**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **52001**	RunNo: **68314**							
Prep Date: **4/21/2020**	Analysis Date: **4/22/2020**	SeqNo: **2363548**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-52001**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **52001**	RunNo: **68314**							
Prep Date: **4/21/2020**	Analysis Date: **4/22/2020**	SeqNo: **2363549**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.7	90	110			

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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004814**

24-Apr-20

Client: Souder, Miller & Associates

Project: Abe Unit 2

Sample ID: **LCS-51945** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **51945** RunNo: **68265**

Prep Date: **4/19/2020** Analysis Date: **4/20/2020** SeqNo: **2361902** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	108	70	130			
Surr: DNOP	3.7		5.000		73.6	55.1	146			

Sample ID: **MB-51945** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **51945** RunNo: **68265**

Prep Date: **4/19/2020** Analysis Date: **4/20/2020** SeqNo: **2361904** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.4		10.00		74.4	55.1	146			

Sample ID: **2004814-012AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **L3-2'** Batch ID: **51940** RunNo: **68266**

Prep Date: **4/19/2020** Analysis Date: **4/20/2020** SeqNo: **2361938** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.8	48.88	0	96.5	47.4	136			
Surr: DNOP	3.9		4.888		80.1	55.1	146			

Sample ID: **2004814-012AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **L3-2'** Batch ID: **51940** RunNo: **68266**

Prep Date: **4/19/2020** Analysis Date: **4/20/2020** SeqNo: **2361939** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.6	48.12	0	93.2	47.4	136	5.04	43.4	
Surr: DNOP	3.8		4.812		78.9	55.1	146	0	0	

Sample ID: **LCS-51939** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **51939** RunNo: **68266**

Prep Date: **4/19/2020** Analysis Date: **4/20/2020** SeqNo: **2361959** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.4	70	130			
Surr: DNOP	3.9		5.000		77.4	55.1	146			

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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004814**

24-Apr-20

Client: Souder, Miller & Associates

Project: Abe Unit 2

Sample ID: **LCS-51940**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **51940**	RunNo: **68266**
Prep Date: **4/19/2020**	Analysis Date: **4/20/2020**	SeqNo: **2361960** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.4	70	130			
Surr: DNOP	4.0		5.000		80.0	55.1	146			

Sample ID: **MB-51939**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **51939**	RunNo: **68266**
Prep Date: **4/19/2020**	Analysis Date: **4/20/2020**	SeqNo: **2361961** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.3		10.00		82.8	55.1	146			

Sample ID: **MB-51940**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **51940**	RunNo: **68266**
Prep Date: **4/19/2020**	Analysis Date: **4/20/2020**	SeqNo: **2361962** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.0		10.00		79.7	55.1	146			

Sample ID: **LCS-51992**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **51992**	RunNo: **68326**
Prep Date: **4/21/2020**	Analysis Date: **4/22/2020**	SeqNo: **2364062** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.3		5.000		106	55.1	146			

Sample ID: **MB-51992**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **51992**	RunNo: **68326**
Prep Date: **4/21/2020**	Analysis Date: **4/22/2020**	SeqNo: **2364067** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		103	55.1	146			

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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004814**

24-Apr-20

Client: Souder, Miller & Associates

Project: Abe Unit 2

Sample ID: **mb-51914**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **51914**	RunNo: **68276**
Prep Date: **4/17/2020**	Analysis Date: **4/21/2020**	SeqNo: **2361707** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		104	66.6	105			

Sample ID: **lcs-51914**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51914**	RunNo: **68276**
Prep Date: **4/17/2020**	Analysis Date: **4/20/2020**	SeqNo: **2361708** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	84.6	80	120			
Surr: BFB	1100		1000		110	66.6	105			S

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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004814**

24-Apr-20

Client: Souder, Miller & Associates

Project: Abe Unit 2

Sample ID: **mb-51914**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **51914**	RunNo: **68276**
Prep Date: **4/17/2020**	Analysis Date: **4/21/2020**	SeqNo: **2361753** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID: **LCS-51914**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **51914**	RunNo: **68276**
Prep Date: **4/17/2020**	Analysis Date: **4/20/2020**	SeqNo: **2361754** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.95	0.10	1.000	0	95.1	20.7	175			
Benzene	0.84	0.025	1.000	0	84.4	80	120			
Toluene	0.88	0.050	1.000	0	88.1	80	120			
Ethylbenzene	0.89	0.050	1.000	0	89.1	80	120			
Xylenes, Total	2.7	0.10	3.000	0	89.8	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004814**

24-Apr-20

Client: Souder, Miller & Associates

Project: Abe Unit 2

Sample ID: **2004814-017ams** SampType: **MS** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **L4-3'** Batch ID: **51923** RunNo: **68325**

Prep Date: **4/18/2020** Analysis Date: **4/21/2020** SeqNo: **2363882** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.12	0.9814	0	94.4	70	130			
Toluene	0.98	0.25	0.9814	0	99.5	70	130			
Ethylbenzene	1.0	0.25	0.9814	0	103	70	130			
Xylenes, Total	3.0	0.49	2.944	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	2.4		2.453		99.2	70	130			
Surr: 4-Bromofluorobenzene	2.3		2.453		95.7	70	130			
Surr: Dibromofluoromethane	2.5		2.453		103	70	130			
Surr: Toluene-d8	2.4		2.453		99.7	70	130			

Sample ID: **2004814-017amsd** SampType: **MSD** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **L4-3'** Batch ID: **51923** RunNo: **68325**

Prep Date: **4/18/2020** Analysis Date: **4/21/2020** SeqNo: **2363883** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.12	0.9970	0	90.4	70	130	2.82	20	
Toluene	0.96	0.25	0.9970	0	96.3	70	130	1.76	20	
Ethylbenzene	1.0	0.25	0.9970	0	102	70	130	0.0819	0	
Xylenes, Total	3.0	0.50	2.991	0	101	70	130	0.647	0	
Surr: 1,2-Dichloroethane-d4	2.5		2.493		98.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	2.5		2.493		99.4	70	130	0	0	
Surr: Dibromofluoromethane	2.5		2.493		101	70	130	0	0	
Surr: Toluene-d8	2.5		2.493		98.5	70	130	0	0	

Sample ID: **lcs-51923** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **LCSS** Batch ID: **51923** RunNo: **68325**

Prep Date: **4/18/2020** Analysis Date: **4/21/2020** SeqNo: **2363904** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.6	70	130			
Toluene	1.0	0.050	1.000	0	102	70	130			
Ethylbenzene	1.1	0.050	1.000	0	106	70	130			
Xylenes, Total	3.2	0.10	3.000	0	105	70	130			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.3	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		100	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		100	70	130			
Surr: Toluene-d8	0.48		0.5000		96.2	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004814**

24-Apr-20

Client: Souder, Miller & Associates

Project: Abe Unit 2

Sample ID: **mb-51923** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **PBS** Batch ID: **51923** RunNo: **68325**

Prep Date: **4/18/2020** Analysis Date: **4/21/2020** SeqNo: **2363906** Units: **mg/Kg**

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: 1,2-Dichloroethane-d4	0.48		0.5000		96.2	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.7	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		97.8	70	130			
Surr: Toluene-d8	0.49		0.5000		97.5	70	130			

Sample ID: **mb-51926** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **PBS** Batch ID: **51926** RunNo: **68351**

Prep Date: **4/18/2020** Analysis Date: **4/22/2020** SeqNo: **2364735** Units: **mg/Kg**

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: 1,2-Dichloroethane-d4	0.46		0.5000		92.8	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.9	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		97.4	70	130			
Surr: Toluene-d8	0.49		0.5000		98.1	70	130			

Sample ID: **mb-51993** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **PBS** Batch ID: **51993** RunNo: **68351**

Prep Date: **4/21/2020** Analysis Date: **4/23/2020** SeqNo: **2364736** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		91.5	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		100	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		98.6	70	130			
Surr: Toluene-d8	0.50		0.5000		100	70	130			

Sample ID: **lcs-51926** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **LCSS** Batch ID: **51926** RunNo: **68351**

Prep Date: **4/18/2020** Analysis Date: **4/22/2020** SeqNo: **2364760** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	93.3	70	130			
Toluene	1.1	0.050	1.000	0	106	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004814**

24-Apr-20

Client: Souder, Miller & Associates

Project: Abe Unit 2

Sample ID: **lcs-51926** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **LCSS** Batch ID: **51926** RunNo: **68351**

Prep Date: **4/18/2020** Analysis Date: **4/22/2020** SeqNo: **2364760** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.2	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		100	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		99.8	70	130			
Surr: Toluene-d8	0.49		0.5000		97.7	70	130			

Sample ID: **lcs-51993** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **LCSS** Batch ID: **51993** RunNo: **68351**

Prep Date: **4/21/2020** Analysis Date: **4/23/2020** SeqNo: **2364761** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		91.0	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.0	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		98.9	70	130			
Surr: Toluene-d8	0.50		0.5000		100	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004814**

24-Apr-20

Client: Souder, Miller & Associates

Project: Abe Unit 2

Sample ID: **mb-51923** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **PBS** Batch ID: **51923** RunNo: **68325**

Prep Date: **4/18/2020** Analysis Date: **4/21/2020** SeqNo: **2363951** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	500		500.0		99.0	70	130			

Sample ID: **lcs-51923** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **LCSS** Batch ID: **51923** RunNo: **68325**

Prep Date: **4/18/2020** Analysis Date: **4/21/2020** SeqNo: **2363974** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	86.9	70	130			
Surr: BFB	470		500.0		94.8	70	130			

Sample ID: **mb-51926** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **PBS** Batch ID: **51926** RunNo: **68351**

Prep Date: **4/18/2020** Analysis Date: **4/22/2020** SeqNo: **2364764** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	480		500.0		97.0	70	130			

Sample ID: **mb-51993** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **PBS** Batch ID: **51993** RunNo: **68351**

Prep Date: **4/21/2020** Analysis Date: **4/23/2020** SeqNo: **2364765** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	510		500.0		101	70	130			

Sample ID: **2004814-038ams** SampType: **MS** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **L9-1'** Batch ID: **51926** RunNo: **68351**

Prep Date: **4/18/2020** Analysis Date: **4/22/2020** SeqNo: **2364769** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	9.9	24.63	0	91.4	70	130			
Surr: BFB	980		985.2		99.9	70	130			

Sample ID: **2004814-038amsd** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **L9-1'** Batch ID: **51926** RunNo: **68351**

Prep Date: **4/18/2020** Analysis Date: **4/22/2020** SeqNo: **2364770** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	10	24.93	0	89.1	70	130	1.38	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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004814**

24-Apr-20

Client: Souder, Miller & Associates

Project: Abe Unit 2

Sample ID: **2004814-038amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **L9-1'**	Batch ID: **51926**	RunNo: **68351**
Prep Date: **4/18/2020**	Analysis Date: **4/22/2020**	SeqNo: **2364770** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		997.0		101	70	130	0	0	

Sample ID: **lcs-51926**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51926**	RunNo: **68351**
Prep Date: **4/18/2020**	Analysis Date: **4/22/2020**	SeqNo: **2364787** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.4	70	130			
Surr: BFB	490		500.0		98.8	70	130			

Sample ID: **lcs-51993**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **51993**	RunNo: **68351**
Prep Date: **4/21/2020**	Analysis Date: **4/23/2020**	SeqNo: **2364788** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	490		500.0		98.7	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **SMA-CARLSBAD** Work Order Number: **2004814** RcptNo: 1

Received By: **Desiree Dominguez** **4/17/2020** 8:45 DD

Completed By: **Desiree Dominguez** **4/17/2020 8:27:50 AM** DD

Reviewed By: IO 4/17/20

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: SPA 4/17/20

Special Handling (if applicable)

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

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.4	Good	Not Present			

Chain-of-Custody Record

Client: SMA

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day
☑ Standard ☐ Rush

Project Name: Abe Unit #2

Project #:

Project Manager: Ashley Maxwell

Sampler: SOVILAA

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.4-0.0=3.4 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2004814	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/16/20	8:42	Soil	L1-0.5'	4oz	Cool	-001	X	X					X			
	8:50		L1-1'			-002										
	8:53		L1-2'			-003										
	8:55		L1-3'			-004								NO		
	9:00		L1-4'			-005										
	9:07		L2-0.5'			-006										
	9:09		L2-1'			-007										
	9:11		L2-2'			-008										
	9:15		L2-3'			-009								NO		
	9:40		L3-0.5'			-010										
	9:44		L3-1'			-011								NO		
	9:45		L3-2'			-012										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
4/16/20	1427	Sebastian Orozco				
4/16	1908			courier	4/17/20	8:45

Remarks:
Bill Marathon Directly

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

Chain-of-Custody Record

Client: SMA

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day
☑ Standard ☐ Rush

Project Name: Abe Unit #2

Project #:

Project Manager: Ashley Maxwell

Sampler: SOV/LAA

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.4 - 0.0 = 3.4 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2004814	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/16/20	9:47	Soil	L3-3'	4oz	Cool	-013	X	X					✓	NO		
	9:55		L4-0.5'			-014										
	9:57		L4-1'			-015										
	9:59		L4-2'			-016							✓	NO		
	10:02		L4-3'			-017							✓			
	10:09		L5-0.5'			-018										
	10:12		L5-1'			-019										
	10:13		L5-2'			-020							✓	NO		
	10:15		L5-3'			-021							✓			
	10:26		L6-0.5'			-022										
	10:30		L6-1'			-023										
	10:32		L6-2'			-024							✓	NO		

Date	Time	Relinquished by	Received by	Via	Date	Time
4/16/20	1427	Sebastian Orozco				
4/16	1900			courier	4/17/20	8:45

Remarks: Bill Marathon Directly

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Chain-of-Custody Record

Client: SMA

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day
☑ Standard ☐ Rush

Project Name: Abe Unit #2

Project #:

Project Manager: Ashley Maxwell

Sampler: SOV/LAA

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.4 +0.0 = 3.4 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2004814	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/16/20	10:35	Soil	L6-3'	402	Cool	-025	X	X					X	NO		
	10:37		L6-4'			-026										
	10:42		L7-0.5'			-027										
	10:44		L7-1'			-028										
	10:46		L7-2'			-029								NO		
	10:48		L7-3'			-030										
	10:50		L7-4'			-031										
	11:10		L8-0.5'			-032										
	11:12		L8-1'			-033										
	11:15		L8-2'			-034								NO		
	11:17		L8-3'			-035										
↓	11:20	↓	L8-4'	↓	↓	-036	↓	↓					↓	↓		

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
4/16/20	1427	Sebastian Orozco			4/16	1430
4/16	1900			courier	4/17/20	8:45

Remarks: Bill Marathon Directly

Chain-of-Custody Record

Client: SMA

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: 5 day
☑ Standard ☐ Rush

Project Name: Abe Unit #2

Project #:

Project Manager: Ashley Maxwell

Sampler:
On Ice: ☑ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 3.4-0.0=3.4 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2004814	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)						
4/16/20	10:52	Soil	LS9-0.5'	4oz	Cool	-037	X	X					X									
|	10:54	|	LS9-1'	|	|	-038	|	|					|									
|	10:58	|	LS9-~~2~~ 3'30	|	|	-039	|	|					NO									
|	11:07	|	LS9-4'	|	|	-040	|	|					|								
|	10:56	|	LS9-2'	|	|	-041	|	|					|								

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
4/16/20	1432	[signature]	[signature]		4/16	1432
4/16	1900	[signature]	[signature]	courier	4/17/20	8:45

Remarks: Bill Marathon Directly

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

envirotech
Analytical Laboratory

Analytical Report

Report Summary

Client: Souder Miller Associates - Carlsbad

Samples Received: 5/27/2020
Job Number: 19026-0001
Work Order: P005082
Project Name/Location: CL-20.00916/ Abe Unit #2

Report Reviewed By: Walter Hinchman Date: 5/29/20

Walter Hinchman, Laboratory Director

NELAP ACCREDITED TNI LABORATORY

Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.
Statement of Data Authenticity: Envirotech, Inc, attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.
Envirotech, Inc, holds the Utah TNI certification NM009792018-1 for the data reported.
Envirotech, Inc, holds the Texas TNI certification T104704557-19-2 for the data reported.

envirotech
Analytical Laboratory

Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Pad Overspray CSL1- Surface	P005082-01A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Pad Overspray CSL2- Surface	P005082-02A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Pad Overspray CSL3- Surface	P005082-03A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Pasture Overspray CSL1- Surface	P005082-04A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Pasture Overspray CSL2- Surface	P005082-05A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Pasture Overspray CSL3- Surface	P005082-06A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Pasture Overspray CSL4- Surface	P005082-07A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Pasture Overspray CSL5- Surface	P005082-08A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Pasture Overspray CSL6- Surface	P005082-09A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Pasture Overspray CSL7- Surface	P005082-10A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Pasture Overspray CSL8- Surface	P005082-11A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Pasture Overspray CSL9-0.5'	P005082-12A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Concentrated area CSL 1-2'	P005082-13A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Concentrated area CSL 2-2'	P005082-14A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Concentrated area CSL 3-2'	P005082-15A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Concentrated area CSL 4-2'	P005082-16A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Concentrated area CSL 5-2'	P005082-17A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Concentrated area CSL 6-1'	P005082-18A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Concentrated area CSL 7-1'	P005082-19A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
Concentrated area CSL 8-1'	P005082-20A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
SW1	P005082-21A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
SW2	P005082-22A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
SW3	P005082-23A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
SW4	P005082-24A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
SW5	P005082-25A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
SW6	P005082-26A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.
SW7	P005082-27A	Soil	05/22/20	05/27/20	Glass Jar, 4 oz.

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Pad Overspray CSL1- Surface

P005082-01 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*107 %*		*50-150*	*2022011*	*05/27/20*	*05/27/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*78.5 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*88.7 %*		*50-150*	*2022011*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/27/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Pad Overspray CSL2- Surface

P005082-02 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*107 %*		*50-150*	*2022011*	*05/27/20*	*05/27/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*81.2 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*87.8 %*		*50-150*	*2022011*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/27/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Pad Overspray CSL3- Surface

P005082-03 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*106 %*		*50-150*	*2022011*	*05/27/20*	*05/27/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*78.2 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/27/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*88.5 %*		*50-150*	*2022011*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/27/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Pasture Overspray CSL1- Surface

P005082-04 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*106 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*82.8 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*87.7 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/27/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Pasture Overspray CSL2- Surface

P005082-05 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*106 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*83.3 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*88.6 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/27/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Pasture Overspray CSL3- Surface

P005082-06 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*106 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*83.8 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*88.6 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/27/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Pasture Overspray CSL4- Surface

P005082-07 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*105 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*80.4 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*87.6 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/27/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Pasture Overspray CSL5- Surface

P005082-08 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*107 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*90.2 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*88.0 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/27/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Pasture Overspray CSL6- Surface

P005082-09 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*108 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	**30.0**	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*86.0 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*87.9 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**28.7**	20.0	mg/kg	1	2022013	05/27/20	05/27/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Pasture Overspray CSL7- Surface

P005082-10 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*106 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*85.9 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*87.9 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**22.2**	20.0	mg/kg	1	2022013	05/27/20	05/27/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Pasture Overspray CSL8- Surface

P005082-11 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*105 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	**32.6**	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*87.5 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*88.0 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**21.7**	20.0	mg/kg	1	2022013	05/27/20	05/27/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Pasture Overspray CSL9-0.5'

P005082-12 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*108 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*73.4 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*87.9 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/27/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Concentrated area CSL 1-2'
P005082-13 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*107 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*80.9 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*87.8 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/28/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Concentrated area CSL 2-2'

P005082-14 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*108 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*79.8 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*88.4 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/28/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Concentrated area CSL 3-2'

P005082-15 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*106 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*74.0 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*86.7 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/28/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Concentrated area CSL 4-2'
P005082-16 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*107 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*62.6 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*87.3 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/28/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Concentrated area CSL 5-2'

P005082-17 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*106 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*79.2 %*		*50-200*	*2022005*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*86.8 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/28/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Concentrated area CSL 6-1'

P005082-18 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*104 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/28/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/28/20	EPA 8015D	
Surrogate: n-Nonane		*79.3 %*		*50-200*	*2022005*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*87.0 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/28/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Concentrated area CSL 7-1'

P005082-19 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*105 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/28/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/28/20	EPA 8015D	
Surrogate: n-Nonane		*84.2 %*		*50-200*	*2022005*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*86.8 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/28/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Concentrated area CSL 8-1'

P005082-20 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*104 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022005	05/27/20	05/28/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022005	05/27/20	05/28/20	EPA 8015D	
Surrogate: n-Nonane		*81.5 %*		*50-200*	*2022005*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022011	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*87.9 %*		*50-150*	*2022011*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022013	05/27/20	05/28/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

SW1

P005082-21 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*105 %*		*50-150*	*2022012*	*05/27/20*	*05/27/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022006	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022006	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*82.7 %*		*50-200*	*2022006*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*93.0 %*		*50-150*	*2022012*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022014	05/27/20	05/28/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

SW2

P005082-22 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*107 %*		*50-150*	*2022012*	*05/27/20*	*05/27/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022006	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022006	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*88.5 %*		*50-200*	*2022006*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*92.9 %*		*50-150*	*2022012*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022014	05/27/20	05/28/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

SW3
P005082-23 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*105 %*		*50-150*	*2022012*	*05/27/20*	*05/27/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022006	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022006	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*87.2 %*		*50-200*	*2022006*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022012	05/27/20	05/27/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*91.4 %*		*50-150*	*2022012*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022014	05/27/20	05/28/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

SW4
P005082-24 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*108 %*		*50-150*	*2022012*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022006	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022006	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*87.6 %*		*50-200*	*2022006*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*93.3 %*		*50-150*	*2022012*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022014	05/27/20	05/28/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

SW5

P005082-25 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*107 %*		*50-150*	*2022012*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022006	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022006	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*82.6 %*		*50-200*	*2022006*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*91.4 %*		*50-150*	*2022012*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022014	05/27/20	05/28/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

SW6

P005082-26 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*108 %*		*50-150*	*2022012*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022006	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022006	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*87.1 %*		*50-200*	*2022006*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*91.7 %*		*50-150*	*2022012*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022014	05/27/20	05/28/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

SW7
P005082-27 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*109 %*		*50-150*	*2022012*	*05/27/20*	*05/28/20*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2022006	05/27/20	05/27/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2022006	05/27/20	05/27/20	EPA 8015D	
Surrogate: n-Nonane		*84.6 %*		*50-200*	*2022006*	*05/27/20*	*05/27/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2022012	05/27/20	05/28/20	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*92.7 %*		*50-150*	*2022012*	*05/27/20*	*05/28/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2022014	05/27/20	05/28/20	EPA 300.0/9056A	

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Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Volatile Organics by EPA 8021 - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2022011 - Purge and Trap EPA 5030A										
Blank (2022011-BLK1)				Prepared & Analyzed: 05/27/20 1						
Benzene	ND	0.0250	mg/kg							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
p,m-Xylene	ND	0.0500	"							
o-Xylene	ND	0.0250	"							
Total Xylenes	ND	0.0250	"							
Surrogate: 4-Bromochlorobenzene-PID	*8.25*		*"*	*8.00*		*103*	*50-150*			
LCS (2022011-BS1)				Prepared: 05/27/20 1 Analyzed: 05/28/20 1						
Benzene	4.98	0.0250	mg/kg	5.00		99.6	70-130			
Toluene	5.07	0.0250	"	5.00		101	70-130			
Ethylbenzene	5.02	0.0250	"	5.00		100	70-130			
p,m-Xylene	9.99	0.0500	"	10.0		99.9	70-130			
o-Xylene	4.98	0.0250	"	5.00		99.7	70-130			
Total Xylenes	15.0	0.0250	"	15.0		99.9	0-200			
Surrogate: 4-Bromochlorobenzene-PID	*8.40*		*"*	*8.00*		*105*	*50-150*			
Matrix Spike (2022011-MS1)		**Source: P005082-01**		Prepared: 05/27/20 1 Analyzed: 05/28/20 1						
Benzene	4.90	0.0250	mg/kg	5.00	ND	98.1	54.3-133			
Toluene	5.03	0.0250	"	5.00	ND	101	61.4-130			
Ethylbenzene	4.99	0.0250	"	5.00	ND	99.8	61.4-133			
p,m-Xylene	9.89	0.0500	"	10.0	ND	98.9	63.3-131			
o-Xylene	4.89	0.0250	"	5.00	ND	97.7	63.3-131			
Total Xylenes	14.8	0.0250	"	15.0	ND	98.5	0-200			
Surrogate: 4-Bromochlorobenzene-PID	*8.40*		*"*	*8.00*		*105*	*50-150*			
Matrix Spike Dup (2022011-MSD1)		**Source: P005082-01**		Prepared: 05/27/20 1 Analyzed: 05/28/20 1						
Benzene	5.12	0.0250	mg/kg	5.00	ND	102	54.3-133	4.28	20	
Toluene	5.27	0.0250	"	5.00	ND	105	61.4-130	4.58	20	
Ethylbenzene	5.21	0.0250	"	5.00	ND	104	61.4-133	4.32	20	
p,m-Xylene	10.3	0.0500	"	10.0	ND	103	63.3-131	4.53	20	
o-Xylene	5.13	0.0250	"	5.00	ND	103	63.3-131	4.88	20	
Total Xylenes	15.5	0.0250	"	15.0	ND	103	0-200	4.64	200	
Surrogate: 4-Bromochlorobenzene-PID	*8.35*		*"*	*8.00*		*104*	*50-150*			

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Analytical Laboratory

Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Volatile Organics by EPA 8021 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2022012 - Purge and Trap EPA 5030A										
Blank (2022012-BLK1)				Prepared & Analyzed: 05/27/20 1						
Benzene	ND	0.0250	mg/kg							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
p,m-Xylene	ND	0.0500	"							
o-Xylene	ND	0.0250	"							
Total Xylenes	ND	0.0250	"							
Surrogate: 4-Bromochlorobenzene-PID	*8.23*		*"*	*8.00*		*103*	*50-150*			
LCS (2022012-BS1)				Prepared & Analyzed: 05/27/20 1						
Benzene	4.74	0.0250	mg/kg	5.00		94.7	70-130			
Toluene	4.74	0.0250	"	5.00		94.8	70-130			
Ethylbenzene	4.72	0.0250	"	5.00		94.3	70-130			
p,m-Xylene	9.46	0.0500	"	10.0		94.6	70-130			
o-Xylene	4.75	0.0250	"	5.00		95.1	70-130			
Total Xylenes	14.2	0.0250	"	15.0		94.8	0-200			
Surrogate: 4-Bromochlorobenzene-PID	*8.48*		*"*	*8.00*		*106*	*50-150*			
Matrix Spike (2022012-MS1)	**Source: P005073-01**			Prepared: 05/27/20 1 Analyzed: 05/28/20 1						
Benzene	5.02	0.0250	mg/kg	5.00	ND	100	54.3-133			
Toluene	5.02	0.0250	"	5.00	ND	100	61.4-130			
Ethylbenzene	5.01	0.0250	"	5.00	ND	100	61.4-133			
p,m-Xylene	10.0	0.0500	"	10.0	ND	100	63.3-131			
o-Xylene	5.01	0.0250	"	5.00	ND	100	63.3-131			
Total Xylenes	15.0	0.0250	"	15.0	ND	100	0-200			
Surrogate: 4-Bromochlorobenzene-PID	*8.32*		*"*	*8.00*		*104*	*50-150*			
Matrix Spike Dup (2022012-MSD1)	**Source: P005073-01**			Prepared: 05/27/20 1 Analyzed: 05/27/20 2						
Benzene	5.38	0.0250	mg/kg	5.00	ND	108	54.3-133	6.99	20	
Toluene	5.38	0.0250	"	5.00	ND	108	61.4-130	6.75	20	
Ethylbenzene	5.36	0.0250	"	5.00	ND	107	61.4-133	6.80	20	
p,m-Xylene	10.7	0.0500	"	10.0	ND	107	63.3-131	6.78	20	
o-Xylene	5.38	0.0250	"	5.00	ND	108	63.3-131	6.97	20	
Total Xylenes	16.1	0.0250	"	15.0	ND	107	0-200	6.84	200	
Surrogate: 4-Bromochlorobenzene-PID	*8.49*		*"*	*8.00*		*106*	*50-150*			

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Analytical Laboratory

Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Nonhalogenated Organics by 8015 - DRO/ORO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2022005 - DRO Extraction EPA 3570										
Blank (2022005-BLK1)				Prepared & Analyzed: 05/27/20 1						
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40)	ND	50.0	"							
Surrogate: n-Nonane	*40.5*		*"*	*50.0*		*81.1*	*50-200*			
LCS (2022005-BS1)				Prepared & Analyzed: 05/27/20 1						
Diesel Range Organics (C10-C28)	389	25.0	mg/kg	500		77.7	38-132			
Surrogate: n-Nonane	*40.7*		*"*	*50.0*		*81.3*	*50-200*			
Matrix Spike (2022005-MS1)		**Source: P005082-01**		Prepared & Analyzed: 05/27/20 1						
Diesel Range Organics (C10-C28)	414	25.0	mg/kg	500	ND	82.9	38-132			
Surrogate: n-Nonane	*41.0*		*"*	*50.0*		*82.1*	*50-200*			
Matrix Spike Dup (2022005-MSD1)		**Source: P005082-01**		Prepared & Analyzed: 05/27/20 1						
Diesel Range Organics (C10-C28)	423	25.0	mg/kg	500	ND	84.6	38-132	2.01	20	
Surrogate: n-Nonane	*40.8*		*"*	*50.0*		*81.6*	*50-200*			

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Analytical Laboratory

Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Nonhalogenated Organics by 8015 - DRO/ORO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2022006 - DRO Extraction EPA 3570										
Blank (2022006-BLK1)				Prepared & Analyzed: 05/27/20 1						
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40)	ND	50.0	"							
Surrogate: n-Nonane	*46.6*		*"*	*50.0*		*93.2*	*50-200*			
LCS (2022006-BS1)				Prepared & Analyzed: 05/27/20 1						
Diesel Range Organics (C10-C28)	460	25.0	mg/kg	500		92.0	38-132			
Surrogate: n-Nonane	*50.4*		*"*	*50.0*		*101*	*50-200*			
Matrix Spike (2022006-MS1)		**Source: P005082-21**		Prepared & Analyzed: 05/27/20 1						
Diesel Range Organics (C10-C28)	444	25.0	mg/kg	500	ND	88.7	38-132			
Surrogate: n-Nonane	*44.6*		*"*	*50.0*		*89.1*	*50-200*			
Matrix Spike Dup (2022006-MSD1)		**Source: P005082-21**		Prepared & Analyzed: 05/27/20 1						
Diesel Range Organics (C10-C28)	450	25.0	mg/kg	500	ND	90.1	38-132	1.50	20	
Surrogate: n-Nonane	*46.0*		*"*	*50.0*		*91.9*	*50-200*			

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Analytical Laboratory

Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Nonhalogenated Organics by 8015 - GRO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2022011 - Purge and Trap EPA 5030A										
Blank (2022011-BLK1)				Prepared & Analyzed: 05/27/20 1						
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.07*		*"*	*8.00*		*88.4*	*50-150*			
LCS (2022011-BS2)				Prepared: 05/27/20 1 Analyzed: 05/27/20 2						
Gasoline Range Organics (C6-C10)	43.4	20.0	mg/kg	50.0		86.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.22*		*"*	*8.00*		*90.2*	*50-150*			
Matrix Spike (2022011-MS2)		**Source: P005082-01**		Prepared: 05/27/20 1 Analyzed: 05/28/20 1						
Gasoline Range Organics (C6-C10)	49.3	20.0	mg/kg	50.0	ND	98.7	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.20*		*"*	*8.00*		*89.9*	*50-150*			
Matrix Spike Dup (2022011-MSD2)		**Source: P005082-01**		Prepared: 05/27/20 1 Analyzed: 05/28/20 1						
Gasoline Range Organics (C6-C10)	51.9	20.0	mg/kg	50.0	ND	104	70-130	5.09	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.15*		*"*	*8.00*		*89.4*	*50-150*			

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Analytical Laboratory

Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Nonhalogenated Organics by 8015 - GRO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2022012 - Purge and Trap EPA 5030A										
Blank (2022012-BLK1)				Prepared & Analyzed: 05/27/20 1						
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.45*		"	*8.00*		*93.2*	*50-150*			
LCS (2022012-BS2)				Prepared & Analyzed: 05/27/20 1						
Gasoline Range Organics (C6-C10)	50.9	20.0	mg/kg	50.0		102	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.53*		"	*8.00*		*94.1*	*50-150*			
Matrix Spike (2022012-MS2)	**Source: P005073-01**			Prepared: 05/27/20 1 Analyzed: 05/27/20 2						
Gasoline Range Organics (C6-C10)	46.8	20.0	mg/kg	50.0	ND	93.7	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.46*		"	*8.00*		*93.3*	*50-150*			
Matrix Spike Dup (2022012-MSD2)	**Source: P005073-01**			Prepared: 05/27/20 1 Analyzed: 05/27/20 2						
Gasoline Range Organics (C6-C10)	49.5	20.0	mg/kg	50.0	ND	99.0	70-130	5.58	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.51*		"	*8.00*		*93.8*	*50-150*			

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Analytical Laboratory

Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Anions by 300.0/9056A - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2022013 - Anion Extraction EPA 300.0/9056A										
Blank (2022013-BLK1)				Prepared & Analyzed: 05/27/20 1						
Chloride	ND	20.0	mg/kg							
LCS (2022013-BS1)				Prepared & Analyzed: 05/27/20 1						
Chloride	250	20.0	mg/kg	250		100	90-110			
Matrix Spike (2022013-MS1)		**Source: P005082-01**		Prepared & Analyzed: 05/27/20 1						
Chloride	253	20.0	mg/kg	250	ND	101	80-120			
Matrix Spike Dup (2022013-MSD1)		**Source: P005082-01**		Prepared & Analyzed: 05/27/20 1						
Chloride	252	20.0	mg/kg	250	ND	101	80-120	0.365	20	

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Analytical Laboratory

Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Anions by 300.0/9056A - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2022014 - Anion Extraction EPA 300.0/9056A										
Blank (2022014-BLK1)				Prepared: 05/27/20 1 Analyzed: 05/28/20 0						
Chloride	ND	20.0	mg/kg							
LCS (2022014-BS1)				Prepared: 05/27/20 1 Analyzed: 05/28/20 0						
Chloride	252	20.0	mg/kg	250		101	90-110			
Matrix Spike (2022014-MS1)		**Source: P005080-01**		Prepared: 05/27/20 1 Analyzed: 05/28/20 0						
Chloride	265	20.0	mg/kg	250	ND	106	80-120			
Matrix Spike Dup (2022014-MSD1)		**Source: P005080-01**		Prepared: 05/27/20 1 Analyzed: 05/28/20 0						
Chloride	264	20.0	mg/kg	250	ND	105	80-120	0.541	20	

QC Summary Report
Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values my differ slightly.

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Analytical Laboratory

Souder Miller Associates - Carlsbad	Project Name:	CL-20.00916/ Abe Unit #2	
201 S Halagueno St.	Project Number:	19026-0001	**Reported:**
Carlsbad NM, 88220	Project Manager:	Ashley Maxwell	05/29/20 10:50

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
**	Methods marked with ** are non-accredited methods.

Soil data is reported on an "as received" weight basis, unless reported otherwise.

Project Information | Chain of Custody | Page 1 of 3

Client:	Souder Miller & Associates
Project:	CL-20.00916 / Apple Unit #2
Project Manager:	Ashley Maxwell
Address:	201 S. Halaquena St
City, State, Zip	Carlsbad NM 88220
Phone:	(505) 516-7469
Email:	Ashley.maxwell@soudermiller.com

Report Attention

Report due by:	
Attention:	
Address:	
City, State, Zip	
Phone:	
Email:	

Lab Use Only

Lab WO#	Job Number
P005082	19026-0001

TAT: 1D | 3D

EPA Program: RCRA | CWA | SDWA

State: NM | CO | UT | AZ — NM: X

Time Sampled	Date Sampled	Matrix	No Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0		TCEQ 1005	BGDOC - NM	BGDOC - TX				Remarks
945	5/22/20	Soil	4oz. Jars	Rad overspray CSL1 - Surface	1	X	X	X		X								
947				Rad overspray CSL2 - Surface	2													
949				Rad overspray CSL3 - Surface	3													
1047				Pasture overspray CSL1 - Surface	4													
1050				Pasture Overspray CSL2 - Surface	5													
1053				Pasture Overspray CSL3 - Surface	6													
1055				Pasture Overspray CSL4 - Surface	7													
1058				Pasture Overspray CSL5 - Surface	8													
1100				Pasture Overspray CSL6 - Surface	9													
1105				Pasture overspray CSL7 - Surface	10													

Additional Instructions: 1 of 3

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Lynn Brosh

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	5-26-2020	1115		5.26.2020	1115
	5.26.2020	1600		5/27/20	11:00

Lab Use Only
Received on ice: (Y) / N
T1 T2 T3
AVG Temp °C 4

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

envirotech Analytical Laboratory
5795 US Highway 64, Farmington, NM 87401
24 Hour Emergency Response Phone (800) 362-1879
Ph (505) 632-1881 Fx (505) 632-1865
envirotech-inc.com
labadmin@envirotech-inc.com

Project Information | Chain of Custody | Page 2 of 3

Client:	
Project:	
Project Manager:	
Address:	
City, State, Zip	
Phone:	
Email:	

Report Attention

Report due by:	
Attention:	
Address:	
City, State, Zip	
Phone:	
Email:	

Lab Use Only

Lab WO#	Job Number
P005082	19026-0001

TAT: 1D | 3D

EPA Program: RCRA | CWA | SDWA

State: NM | CO | UT | AZ — NM: X

Analysis and Method

Time Sampled	Date Sampled	Matrix	No Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0		TCEQ 1005	BGDOC - NM	BGDOC - TX				Remarks
1110	5/27/20	Soil	4 oz jars	Pasture Overspray CSL8-Surface	11	X	X	X		X								
1113				Pasture Overspray CSL9 - 0.5'	12													
1122				Concentrated area CSL1 - 2'	13													
1125				Concentrated area CSL2 - 2'	14													
1128				Concentrated area CSL3 - 2'	15													
1132				Concentrated area CSL4 - 2'	16													
1135				Concentrated area CSL5 - 2'	17													
1140				Concentrated area CSL6 - 1'	18													
1143				Concentrated area CSL7 - 1'	19													
1145				Concentrated area CSL8 - 1'	20													

Additional Instructions: 2 of 3

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Lynn Acosta

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	5.26.20	1115		5.26.2020	1115
	5.26.2020	1600	Alyssa Nichols	5/27/20	11:00

Lab Use Only
Received on ice: Y / N
T1 T2 T3
AVG Temp °C 4

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

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Project Information | Chain of Custody | Page 3 of 3

Client:	
Project:	
Project Manager:	
Address:	
City, State, Zip	
Phone:	
Email:	

Report Attention

Report due by:	
Attention:	
Address:	
City, State, Zip	
Phone:	
Email:	

Lab Use Only

Lab WO#	Job Number
P005082	19026-0001

TAT: 1D | 3D

EPA Program: RCRA | CWA | SDWA

State: NM | CO | UT | AZ (NM: X)

Analysis and Method

Time Sampled	Date Sampled	Matrix	No Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0		TCEQ 1005	BGDOC - NM	BGDOC - TX				Remarks
1320	5/22/20	Soil	4oz	SW1	21	X	X	X		X								
1322	"	"	"	SW2	22	"	"	"		"								
1325	"	"	"	SW3	23	"	"	"		"								
1328	"	"	"	SW4	24	"	"	"		"								
1330	"	"	"	SW5	25	"	"	"		"								
1334	"	"	"	SW6	26	"	"	"		"								
1338	"	"	"	SW7	27	"	"	"		"								

Additional Instructions: 3 of 3

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Lynn Acosta

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Lynn Acosta	5.26.20	1145		5.26.2020	1115
	5.26.2020	1600	Alexis Michaels	5/27/20	11:00

Lab Use Only

Received on ice: (Y) / N

T1 | T2 | T3

AVG Temp °C 4

Sample Matrix: **S** - Soil, **Sd** - Solid, **Sg** - Sludge, **A** - Aqueous, **O** - Other _____

Container Type: **g** - glass, **p** - poly/plastic, **ag** - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

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

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

CONDITIONS

Action 13751

CONDITIONS OF APPROVAL

Operator:	OGRID:	Action Number:	Action Type:
MARATHON OIL PERMIAN LLC 5555 San Felipe St. Permian Regulatory Team Houston, TX77056	372098	13751	C-141

OCD Reviewer	Condition
ceads	None