



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

February 7, 2019

#5E26816 BG20

NMOCD District 1
Ms. Christina Hernandez
1625 N. French Dr.,
Hobbs, NM 88240

SUBJECT: Remediation Closure Report for the Eagle 2 State #4 Release (1RP-5283), Lea County, New Mexico

Dear Ms. Christina Hernandez,

On behalf of Matador Resources, 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 Eagle 2 State #4 site. The site is in Unit D, Section 2, Township 20S, Range 34E, 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	Eagle 2 State #4	Company	Matador Resources
API Number	30-025-38622	Location	32.607745 -103.537270
Incident Number	1RP-5283		
Estimated Date of Release	Discovered on 11/6/2018	Date Reported to NMOCD	11/20/2018
Land Owner	State	Reported To	NMOCD District II
Source of Release	A nearby well communicated causing liquids to flow from the well head		
Released Volume	13 bbls	Released Material	Produced Water
Recovered Volume	N/A	Net Release	13 bbls
NMOCD Closure Criteria	<50 feet to groundwater		
SMA Response Dates	11/6/2018, 1/9/2018, 1/25/2018		

1.0 Background

On November 6, 2018, a release was discovered at the Eagle 2 State #4 site due to a nearby well communicating, which caused liquids to flow from the well head. Initial response activities were conducted by operator, and included source elimination via shutting the well in and containment and site stabilization activities by dispatching a vac truck to recover the standing fluids. Figures 1 and 2 illustrate the vicinity and site location, Figures 3 illustrates the release location. The C-141 and site characterization form is included in Appendix A.

2.0 Site Information and Closure Criteria

The Eagle 2 State #4 is located approximately 24 miles southwest of Hobbs, New Mexico on State land at an elevation of approximately 3686 feet above mean sea level (amsl).

Based upon the New Mexico Office of the State Engineer (NMOSE) online water well database and the USGS online well database, (Appendix B), depth to groundwater in the area is estimated to be between 50 and 65 below grade surface (bgs). A more precise depth to groundwater was not able to be estimated due to the lack of depth to groundwater data in the nearby NMOSE wells and the distance from the location to the USGS wells so the closure criteria was decided to be the most stringent (<50 ft bgs). There are no known water sources within ½-mile of the location. The nearest significant watercourse is Laguna Tonto, located approximately 7.6 miles to the west. Figure 1 illustrates the site water wells to indicate that it does 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 less than 50 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. The pertinent USGS and OSE well data is attached in Appendix B.

3.0 Release Characterization Activities and Findings

On November 6, 2018, SMA personnel arrived on site in response to the release associated with Eagle 2 State #4. SMA performed site delineation activities by collecting soil samples around the release site and throughout the visibly stained area. Soil samples were collected to investigate the release both laterally and vertically. Samples were field-screened for chloride using an electrical conductivity (EC) meter.

A total of 3 sample locations (L1-L3) were investigated vertically using a hand-auger, to depths up to 1 foot bgs. A total of 9 surface samples (L4-L12) were established to determine the release laterally. Field screen showed an elevated surface at sample location L10, so the sample point was moved 1 foot to the south (L10-1). Two background samples were also collected, one on the pad (BG Pad) and one in the pasture (BG1). A total of 9 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. Table 3 itemizes the samples and field-screening results as well as identifying any variances from the typical specification of two samples per boring. Locations for all samples are depicted on Figure 3.

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

After receiving the lab analysis from the first sampling event, SMA returned to location on January 6, 2018 to vertically and laterally extend the delineation of the release. Sample locations L1 and L3 were extended to 4 feet bgs. Sample location L4 was moved laterally 1-foot north (L4-1). Sample location L6 was extended laterally and collected just west of the pipeline to prove the release did not extend past the pipeline (L6-W). Sample location L10-1 was extended laterally 3 more feet to the south, making L10-4, 4 feet from the original sample location L10. A borehole sample location (BH1) was also established in the center of the release to produce confirmation of the vertical extent of the release.

As summarized in Table 3, results indicate that an area approximately 4700 cubic feet had been impacted.

4.0 Soil Remediation Summary

Using the laboratory data from the first two sampling events, SMA returned to the site to oversee the excavation of contaminated soil. After approval from area utilities via 811, SMA guided the excavation by using the previously sampled sidewall locations (L4-L12) and collecting soil samples for field screening and. The walls and base were excavated until field screening results indicated that the NMOCD Closure Criteria would be met. NMOCD was notified on January 20, 2019 that closure samples were expected to be collected.

On January 25, 2019, SMA conducted confirmation sampling of the walls and base of the excavation which was approximately 2350 square feet by 2 feet bgs. The confirmation samples were collected from within the excavation in accordance with a systematic sampling approach as defined by SW846 using Gilbert, 1987 equation 5.2.3 for Stratified Random Sampling which is detailed in Appendix C. This systematic method meets the EPA's data quality assessment standards (DQA) for composite sampling as defined by (Myers 1997). Confirmation samples were comprised of eight, five-point composites of the base (BH1-B4) and walls (SW1-SW4).

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

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

5.0 Scope and Limitations

The scope of our services included: assessment sampling; verifying release stabilization; regulatory liaison; remediation; and preparing this closure report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

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

Eagle 2 State #4 Remediation Closure Report (1RP-5283)
February 7, 2019

Page 4 of 4

Submitted by:
SOUDER, MILLER & ASSOCIATES

Reviewed by:



Lucas Middleton
Staff Scientist



J. Austin Weyant
Senior Scientist

ATTACHMENTS:

Figures:

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

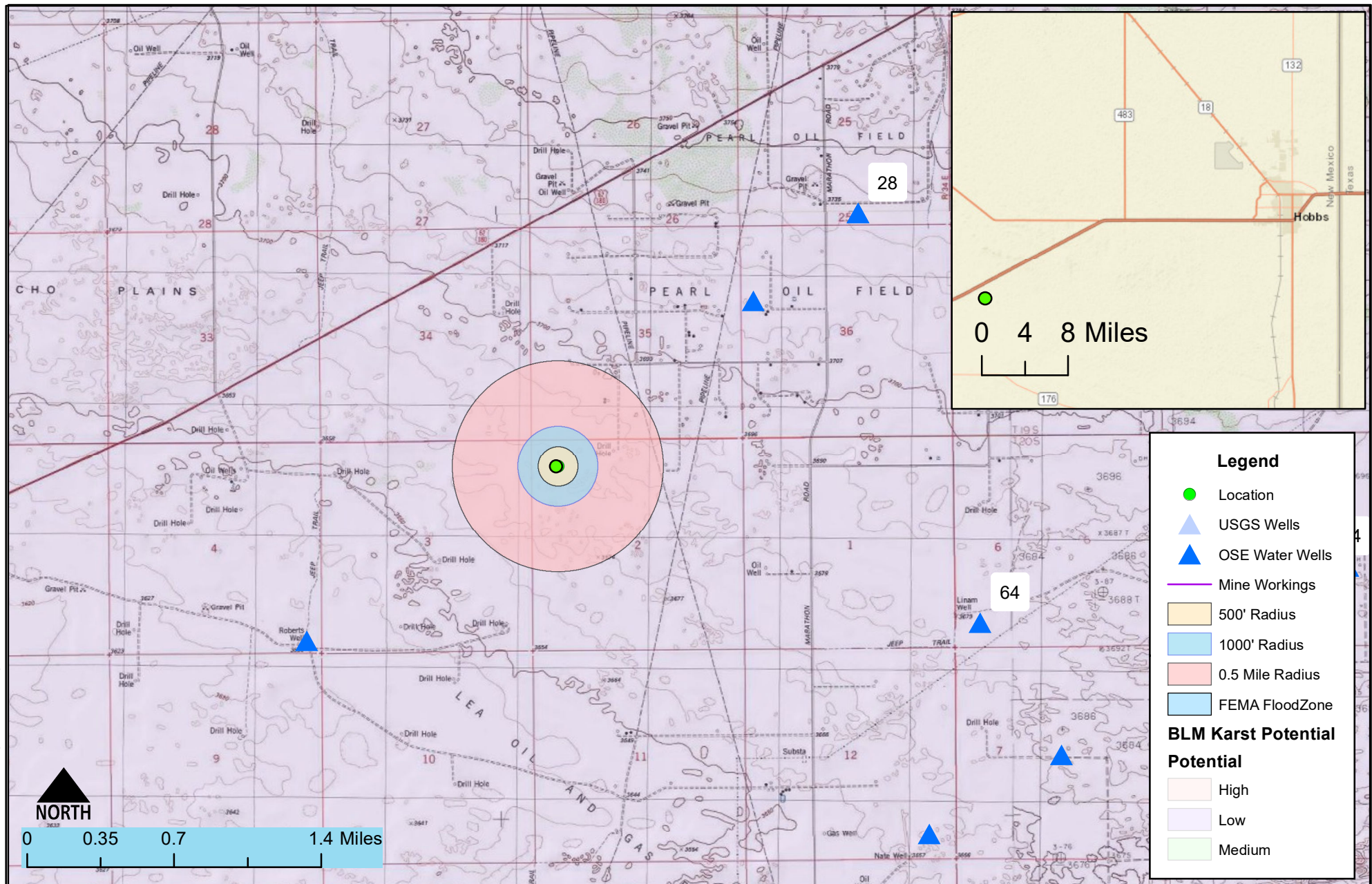
Tables:

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

Appendices:

Appendix A: Form C141
Appendix B: NMOSE Wells Report
Appendix C: VSP Closure Sampling Procedure
Appendix D: Laboratory Analytical Reports
Appendix E: Excavation Photo

FIGURES



Regional Vicinity & Wellhead Protection Map
 Eagle State #4 Matador Resources
 S: 2T20S R34 E, Lea County New Mexico

Figure 1

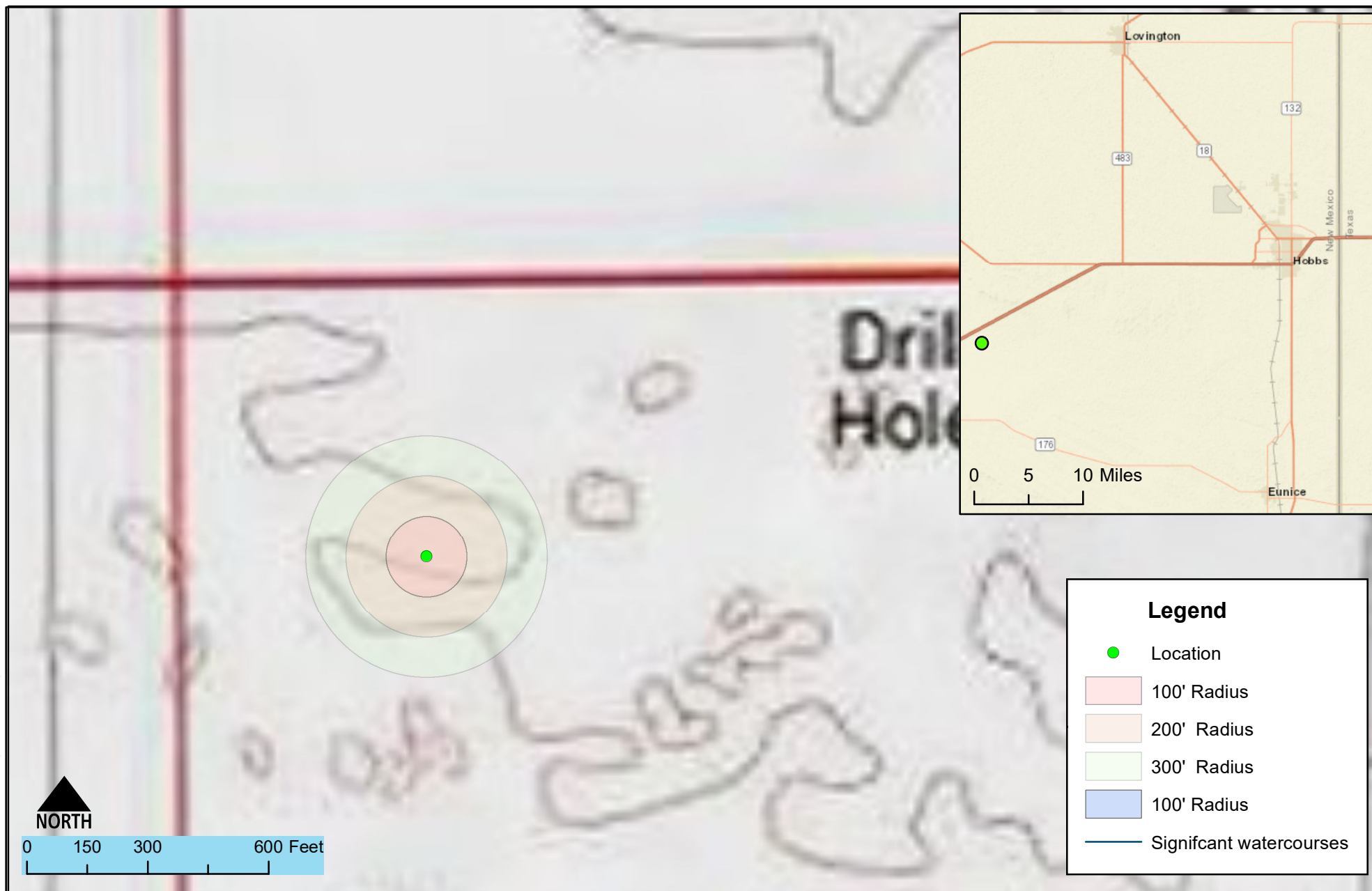
Date Saved:
11/7/2018

Revisions
 By: _____ Date: _____ Descr: _____
 By: _____ Date: _____ Descr: _____
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Drawn Lucas Middleton
 Checked _____
 Approved _____



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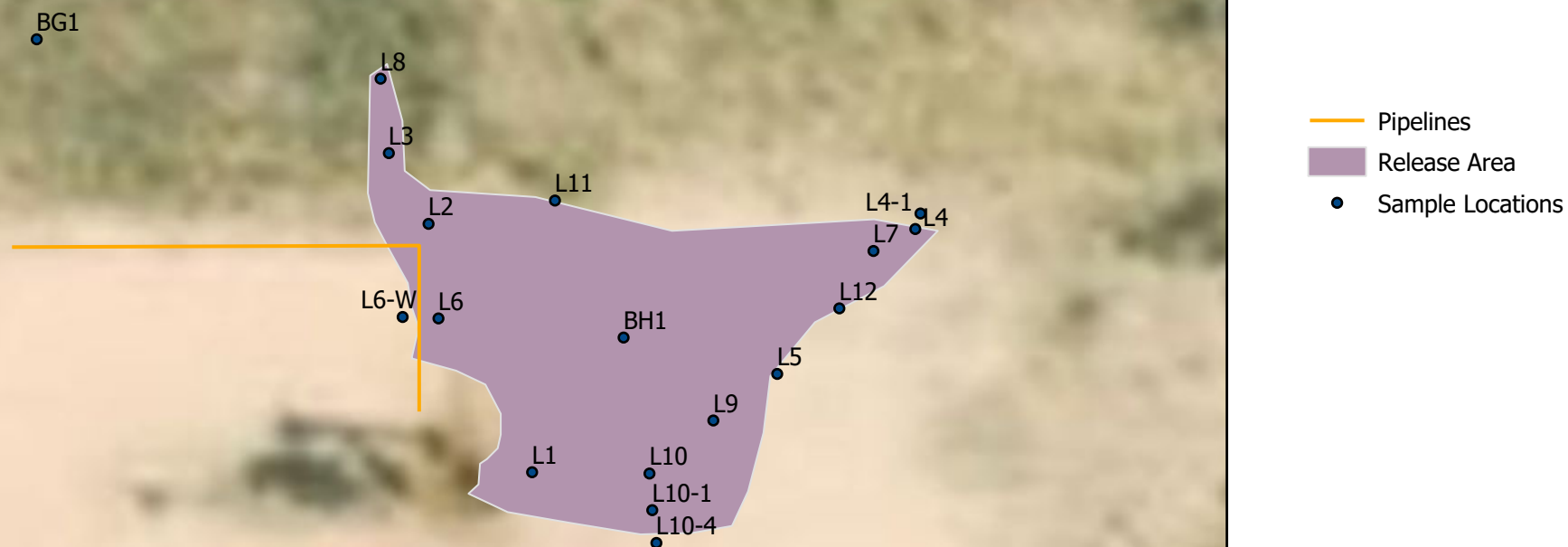
Surface Water Map
 Eagle State #4 Matador Resources
 S: 2T20S R34 E, Lea County New Mexico

Figure 2

Date Saved: 11/7/2018	By: _____	Date: _____	Revisions	Descr: _____	Drawn	Lucas Middleton
	By: _____	Date: _____		Descr: _____	Checked	_____
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Site and Sample Location Map
Eagle State #4 - Matador Resources

Figure 3A

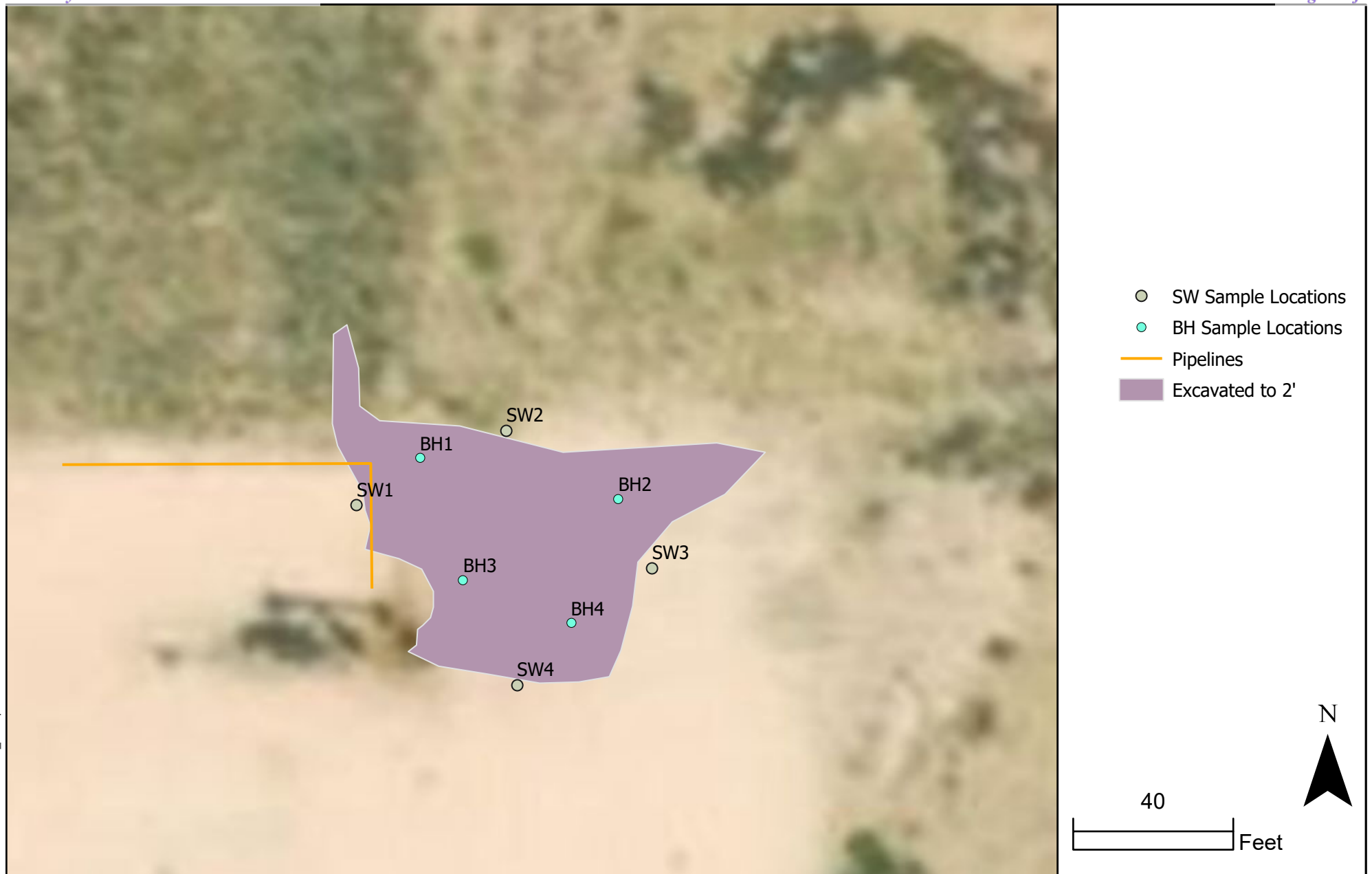
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By: _____ Date: _____ Descr: _____
By: _____ Date: _____ Descr: _____

Drawn
Date: 2/7/2019
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Closure Sample & Excavation Map
Eagle State #4 - Matador Resources

Figure 3A

Revisions

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

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Drawn
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TABLES

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	50-65	USGS (Appendix B)
Horizontal Distance From All Water Sources Within 1/2 Mile (ft)	N/A	Figure 1
Horizontal Distance to Nearest Significant Watercourse (ft)	40,330	Laguna Tonto (7.6 Miles West)

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	x	600	100		50	10
51' to 100'		10000	2500	1000	50	10
>100'		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					

Table 3:
Summary of Sample Results

Sample ID	Sample Date	Depth (feet bgs)	Action Taken	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	Total TPH mg/Kg	Cl- mg/Kg	Field screening
NMOCD Closure Criteria				50	10	1000			100	600	
L1	11/6/2018	Surface	Excavate	--	--	--	--	--	--	--	526
	11/6/2018	1'	Excavate	<0.094	<0.023	<4.7	130	150	280	51	<271
	1/9/2019	2	In-Situ	--	--	<4.8	<9.6	<48	<62.4	--	<271
	1/9/2019	4	In-Situ	--	--	<4.8	<9.7	<49	<63.5	--	<271
L2	11/6/2018	Surface	Excavate	--	--	--	--	--	--	--	1,132
	11/6/2018	1'	In-Situ	<0.092	<0.023	<4.6	<9.4	<47	<47	<30	<271
L3	11/6/2018	Surface	Excavate	--	--	--	--	--	--	--	772
	11/6/2018	1'	Excavate	<0.094	<0.023	<4.7	120	150	270	<30	<271
	1/9/2019	2	In-Situ	--	--	<4.9	<9.5	<47	<61.4	--	<271
	1/9/2019	4	In-Situ	--	--	<4.8	<9.8	<49	<63.6	68	<271
L4	11/6/2018	Surface	Sidewall	<0.096	<0.024	<4.8	42	100	142	520	324
L4-1	1/9/2019	Surface	Sidewall	--	--	<4.6	<9.6	<48	<62.2	--	<271
L5	11/6/2018	Surface	Sidewall	<0.096	<0.024	<4.8	<9.8	<49	<49	460	310
L6	11/6/2018	Surface	Sidewall	<0.095	<0.024	<4.7	2900	3400	6300	300	252
L6-W	1/9/2019	Surface	Sidewall	--	--	<5.0	28	<30	28	170	450
L7	11/6/2018	Surface	Sidewall	<0.098	<0.025	<4.9	26	72	98	<30	512
L8	11/6/2018	Surface	Sidewall	--	--	--	--	--	--	--	<271
L9	11/6/2018	Surface	Excavate	--	--	--	--	--	--	--	988
L10	11/6/2018	Surface	Excavate	--	--	--	--	--	--	--	815
L10-1	11/6/2018	Surface	Sidewall	<0.10	<0.025	<5.0	200	400	600	720	425
L10-4	1/9/2019	Surface	Sidewall	--	--	<4.8	<9.6	<48	<62.4	<30	<271
L11	11/6/2018	Surface	Sidewall	<0.094	<0.023	<4.7	<9.8	<49	<49	<30	555
L12	11/6/2018	Surface	Sidewall	--	--	--	--	--	--	--	<271
BG Pad	11/6/2018	Surface	Sample	--	--	--	--	--	--	--	<271
BG1	11/6/2018	Surface	Sample	--	--	--	--	--	--	--	<271
BH1	1/9/2019	Surface	Excavate	--	--	--	--	--	--	--	2,400
	1/9/2019	2	In-Situ	--	--	<4.6	<9.7	<49	<63.3	--	<271
	1/9/2019	3	In-Situ	--	--	<4.8	<10	<50	<64.8	--	<271
	1/9/2019	4	In-Situ	--	--	<4.9	<9.7	<49	<63.6	--	<271
	1/9/2019	5.5	In-Situ	--	--	<5.0	<9.5	<47	<61.5	--	<271
BH1	1/25/2019	2	In-Situ	<0.213	<0.024	<4.7	56	<49	56	94	--
BH2	1/25/2019	2	In-Situ	<0.22	<0.024	<4.9	<10	<50	<64.9	<30	--
BH3	1/25/2019	2	In-Situ	<0.216	<0.024	<4.8	<10	<50	<64.8	63	--
BH4	1/25/2019	2	In-Situ	<0.215	<0.024	<4.8	<9.7	<49	<63.5	35	--
SW1	1/25/2019	sidewall	In-Situ	<0.216	<0.024	<4.8	<9.7	<48	<62.5	<30	--
SW2	1/25/2019	sidewall	In-Situ	<0.216	<0.024	<4.8	<9.2	<46	<60	31	--
SW3	1/25/2019	sidewall	In-Situ	<0.215	<0.024	<4.8	<9.7	<48	<62.5	<30	--
SW4	1/25/2019	sidewall	In-Situ	<0.215	<0.024	<4.7	40	50	40	90	--

"--" = Not Analyzed

* = per Reclamation Standard (19.15.29.13.D(1) NMAC)

Excavated

SMA #

APPENDIX A FORMS 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	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Matador Resources Company	OGRID 228937
Contact Name John Hurt	Contact Telephone 972-371-5200
Contact email JHurt@matadorresources.com	Incident # (assigned by OCD)
Contact mailing address 5400 LBJ Freeway, Suite 1500 Dallas, TX 75240	

Location of Release Source

Latitude 32.607745° Longitude -103.537270°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Eagle 2 State #4	Site Type Oil Well
Date Release Discovered 11-6-18	API# (if applicable) 30-025-38622

Unit Letter	Section	Township	Range	County
D	02	20S	34E	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)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 13	Volume Recovered (bbls) 10
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: A nearby well communicated causing liquids to flow from the well head. Well was shut in immediately and vacuum truck was onsite to recover standing fluids.

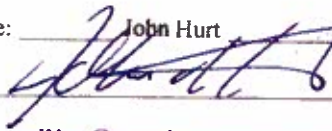
State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

<p>Was this a major release as defined by 19.15.29.7(A) NMAC?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>If YES, for what reason(s) does the responsible party consider this a major release?</p>
<p>If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?</p>	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped.	
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: The terrain of the land at the release area held the liquids from moving laterally	
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: <u>John Hurt</u>	Title: <u>RES Specialist</u>
Signature: 	Date: <u>11-20-14</u>
email: <u>JHurt@matadorresources.com</u>	Telephone: <u>972-371-5200</u>
<u>OCD Only</u>	
Received by: _____	Date: _____

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	NCH1835357590
District RP	1RP-5283
Facility ID	
Application ID	pCH1835359898

Release Notification

Responsible Party

Responsible Party Matador Resources Company	OGRID 228937
Contact Name John Hurt	Contact Telephone 972-371-5200
Contact email JHurt@matadorresources.com	Incident # NCH1835357590
Contact mailing address 5400 LBJ Freeway, Suite 1500 Dallas, TX 75240	

Location of Release Source

Latitude 32.607745° Longitude -103.537270°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Eagle 2 State #4	Site Type Oil Well
Date Release Discovered 11-6-18	API# (if applicable) 30-025-38622

Unit Letter	Section	Township	Range	County
D	02	20S	34E	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)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 13	Volume Recovered (bbls) 10
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: A nearby well communicated causing liquids to flow from the well head. Well was shut in immediately and vacuum truck was onsite to recover standing fluids.

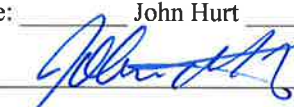
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.
If all the actions described above have <u>not</u> been undertaken, explain why: The terrain of the land at the release area held the liquids from moving laterally
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: <u>John Hurt</u> Title: <u>RES Specialist</u> Signature: <u></u> Date: _____ email: <u>JHurt@matadorresources.com</u> Telephone: <u>972-371-5200</u>
<u>OCD Only</u> Received by: _____ Date: _____

Incident ID	NCH1835357590
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?	50-65 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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.

Oil Conservation Division

Incident ID	NCH1835357590
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: John Hurt Title: RES Specialist

Signature:  Date: 12/07/2022

email: JHurt@matadorresources.com Telephone: 972-371-5200

OCD Only

Received by: Jocelyn Harimon Date: 12/07/2022

Incident ID	NCH1835357590
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: John Hurt Title: RES Specialist

Signature:  Date: 12/07/2022

email: JHurt@matadorresources.com Telephone: 972-371-5200

OCD Only

Received by: Jocelyn Harimon Date: 12/07/2022

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: Jennifer Nobui Date: 03/15/2023

Printed Name: Jennifer Nobui Title: Environmental Specialist A

APPENDIX B WELLS REPORT



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 01672 POD1	CP	LE		1	3	1	36	19S	34E	638736	3610009	1949	100		
CP 00656 POD1	CP	LE		4	4	4	04	20S	34E	635342	3607391*	2340	225		
CP 00683 POD1	CP	LE		3	3	4	25	19S	34E	639530	3610685*	2992	120	28	92

Average Depth to Water: **28 feet**

Minimum Depth: **28 feet**

Maximum Depth: **28 feet**

Record Count: 3

UTMNAD83 Radius Search (in meters):

Easting (X): 637249.9

Northing (Y): 3608747.1

Radius: 3000

*UTM location was derived from PLSS - see Help

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

1/22/19 11:43 AM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category:


Groundwater

Geographic Area:

United States

GO

Click to hide News Bulletins

- Due to a lapse in appropriations, the majority of USGS websites may not be up to date and may not reflect current conditions. Websites displaying real-time data, such as Earthquake and Water and information needed for public health and safety will be updated with limited support. Additionally, USGS will not be able to respond to inquiries until appropriations are enacted. For more information, please see www.doi.gov/shutdown.
- [Please see news on new formats](#)
- [Full News](#) 

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 323536103301101

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 323536103301101 20S.35E.06.331332

Available data for this site

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°35'50", Longitude 103°30'17" NAD27

Land-surface elevation 3,678.00 feet above NGVD29

The depth of the well is 70 feet below land surface.

This well is completed in the Ogallala Formation (121OGLL) local aquifer.

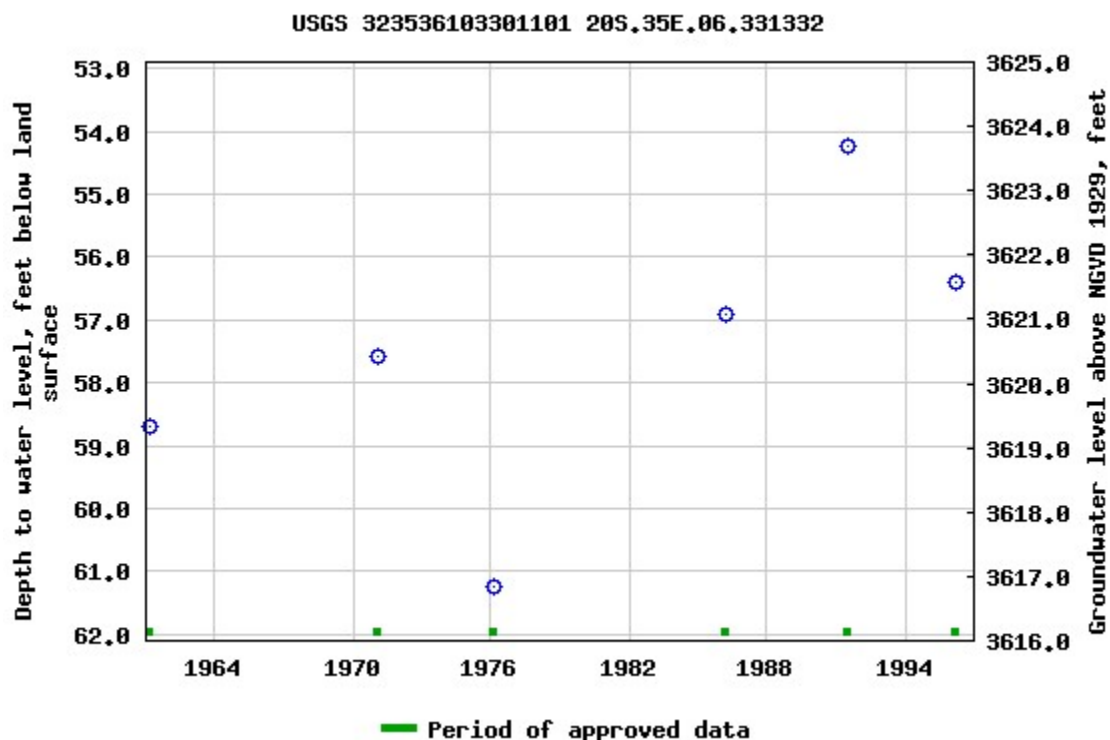
Output formats

[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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[Help](#)

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[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: 2019-01-22 13:35:20 EST

3.22 1.56 nadww01



APPENDIX C

VSP CLOSURE SAMPLING PROCEDURE

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

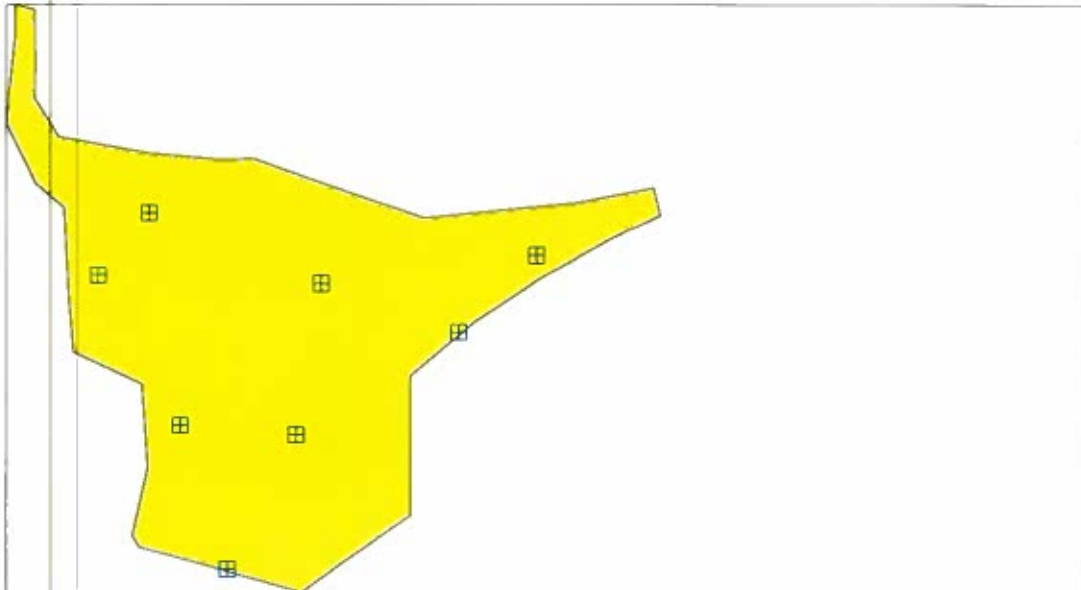
Summary

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	Random sampling within grids within each stratum
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	2356.12 ft 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
786472.8660	585718.7323			Random in Grid		
786466.9641	585736.8810			Random in Grid		
786481.4462	585735.6830			Random in Grid		
786501.8473	585748.9631			Random in Grid		
786456.5890	585756.0784			Random in Grid		
786462.9692	585764.1300			Random in Grid		
786484.5688	585754.9959			Random in Grid		
786511.5840	585758.5904			Random in 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:

$$n = \frac{\left(\sum_{h=1}^L W_h \sqrt{P_h(1-P_h)} \sqrt{c_h} \right)^2}{V + \frac{1}{N} \sum_{h=1}^L W_h P_h(1-P_h)}$$

where

L is the number of strata, $h=1,2,\dots,L$,

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	
W_h	2356.12

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 random sampling within grids in each stratum.

Locating the sample points using a random sampling within grids method combines appealing aspects of both the random and the systematic grid methods. It provides data that are separated by many distances, providing information about the spatial structure of the potential contamination. It also ensures good coverage of the entire site, although not as completely as if systematic grid sampling were performed.

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.

COST INFORMATION

[illegible]

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.

This report was automatically produced* by Visual Sample Plan (VSP) software version 7.11b.

This design was last modified 1/22/2019 2:18:34 PM.

Software and documentation available at <http://vsp.pnnl.gov>

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* - The report contents may have been modified or reformatted by end-user of software.

APPENDIX D

LABORATORY ANALYTICAL REPORTS



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

November 13, 2018

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

RE: Eagle State 4

OrderNo.: 1811509

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 9 sample(s) on 11/9/2018 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1811509

Date Reported: 11/13/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: L1-1

Project: Eagle State 4

Collection Date: 11/6/2018 12:40:00 PM

Lab ID: 1811509-001

Matrix: SOIL

Received Date: 11/9/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	51	30		mg/Kg	20	11/10/2018 1:57:33 AM	41452
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	130	9.6		mg/Kg	1	11/12/2018 3:42:54 PM	41448
Motor Oil Range Organics (MRO)	150	48		mg/Kg	1	11/12/2018 3:42:54 PM	41448
Surr: DNOP	106	50.6-138		%Rec	1	11/12/2018 3:42:54 PM	41448
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/12/2018 2:20:55 PM	41447
Surr: BFB	103	73.8-119		%Rec	1	11/12/2018 2:20:55 PM	41447
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	11/12/2018 2:20:55 PM	41447
Toluene	ND	0.047		mg/Kg	1	11/12/2018 2:20:55 PM	41447
Ethylbenzene	ND	0.047		mg/Kg	1	11/12/2018 2:20:55 PM	41447
Xylenes, Total	ND	0.094		mg/Kg	1	11/12/2018 2:20:55 PM	41447
Surr: 4-Bromofluorobenzene	118	80-120		%Rec	1	11/12/2018 2:20:55 PM	41447

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

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

Page 1 of 13

Analytical Report

Lab Order 1811509

Date Reported: 11/13/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: L2-1

Project: Eagle State 4

Collection Date: 11/6/2018 1:20:00 PM

Lab ID: 1811509-002

Matrix: SOIL

Received Date: 11/9/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	11/10/2018 2:34:47 AM	41452
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	11/12/2018 4:07:09 PM	41448
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/12/2018 4:07:09 PM	41448
Surr: DNOP	107	50.6-138		%Rec	1	11/12/2018 4:07:09 PM	41448
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/12/2018 2:44:20 PM	41447
Surr: BFB	104	73.8-119		%Rec	1	11/12/2018 2:44:20 PM	41447
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	11/12/2018 2:44:20 PM	41447
Toluene	ND	0.046		mg/Kg	1	11/12/2018 2:44:20 PM	41447
Ethylbenzene	ND	0.046		mg/Kg	1	11/12/2018 2:44:20 PM	41447
Xylenes, Total	ND	0.092		mg/Kg	1	11/12/2018 2:44:20 PM	41447
Surr: 4-Bromofluorobenzene	118	80-120		%Rec	1	11/12/2018 2:44:20 PM	41447

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

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

Page 2 of 13

Analytical Report

Lab Order 1811509

Date Reported: 11/13/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: L3-1

Project: Eagle State 4

Collection Date: 11/6/2018 12:50:00 PM

Lab ID: 1811509-003

Matrix: SOIL

Received Date: 11/9/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	11/10/2018 2:47:11 AM	41452
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	120	9.9		mg/Kg	1	11/12/2018 4:31:28 PM	41448
Motor Oil Range Organics (MRO)	150	49		mg/Kg	1	11/12/2018 4:31:28 PM	41448
Surr: DNOP	127	50.6-138		%Rec	1	11/12/2018 4:31:28 PM	41448
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/12/2018 4:41:49 PM	41447
Surr: BFB	103	73.8-119		%Rec	1	11/12/2018 4:41:49 PM	41447
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	11/12/2018 4:41:49 PM	41447
Toluene	ND	0.047		mg/Kg	1	11/12/2018 4:41:49 PM	41447
Ethylbenzene	ND	0.047		mg/Kg	1	11/12/2018 4:41:49 PM	41447
Xylenes, Total	ND	0.094		mg/Kg	1	11/12/2018 4:41:49 PM	41447
Surr: 4-Bromofluorobenzene	118	80-120		%Rec	1	11/12/2018 4:41:49 PM	41447

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

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

Page 3 of 13

Analytical Report

Lab Order 1811509

Date Reported: 11/13/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: L4

Project: Eagle State 4

Collection Date: 11/6/2018 1:00:00 PM

Lab ID: 1811509-004

Matrix: SOIL

Received Date: 11/9/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	520	30		mg/Kg	20	11/10/2018 2:59:35 AM	41452
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	42	10		mg/Kg	1	11/12/2018 4:55:39 PM	41448
Motor Oil Range Organics (MRO)	100	50		mg/Kg	1	11/12/2018 4:55:39 PM	41448
Surr: DNOP	105	50.6-138		%Rec	1	11/12/2018 4:55:39 PM	41448
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/12/2018 5:05:14 PM	41447
Surr: BFB	99.9	73.8-119		%Rec	1	11/12/2018 5:05:14 PM	41447
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/12/2018 5:05:14 PM	41447
Toluene	ND	0.048		mg/Kg	1	11/12/2018 5:05:14 PM	41447
Ethylbenzene	ND	0.048		mg/Kg	1	11/12/2018 5:05:14 PM	41447
Xylenes, Total	ND	0.096		mg/Kg	1	11/12/2018 5:05:14 PM	41447
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	11/12/2018 5:05:14 PM	41447

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

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

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Analytical Report

Lab Order 1811509

Date Reported: 11/13/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: L5

Project: Eagle State 4

Collection Date: 11/6/2018 1:15:00 PM

Lab ID: 1811509-005

Matrix: SOIL

Received Date: 11/9/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	460	30		mg/Kg	20	11/10/2018 3:12:00 AM	41452
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/12/2018 6:07:52 PM	41448
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/12/2018 6:07:52 PM	41448
Surr: DNOP	108	50.6-138		%Rec	1	11/12/2018 6:07:52 PM	41448
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/12/2018 5:52:08 PM	41447
Surr: BFB	104	73.8-119		%Rec	1	11/12/2018 5:52:08 PM	41447
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/12/2018 5:52:08 PM	41447
Toluene	ND	0.048		mg/Kg	1	11/12/2018 5:52:08 PM	41447
Ethylbenzene	ND	0.048		mg/Kg	1	11/12/2018 5:52:08 PM	41447
Xylenes, Total	ND	0.096		mg/Kg	1	11/12/2018 5:52:08 PM	41447
Surr: 4-Bromofluorobenzene	119	80-120		%Rec	1	11/12/2018 5:52:08 PM	41447

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

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

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Analytical Report

Lab Order 1811509

Date Reported: 11/13/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: L6

Project: Eagle State 4

Collection Date: 11/6/2018 1:20:00 PM

Lab ID: 1811509-006

Matrix: SOIL

Received Date: 11/9/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	300	30		mg/Kg	20	11/10/2018 3:24:24 AM	41452
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	2900	96		mg/Kg	10	11/12/2018 6:31:45 PM	41448
Motor Oil Range Organics (MRO)	3400	480		mg/Kg	10	11/12/2018 6:31:45 PM	41448
Surr: DNOP	0	50.6-138	S	%Rec	10	11/12/2018 6:31:45 PM	41448
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/12/2018 6:15:43 PM	41447
Surr: BFB	102	73.8-119		%Rec	1	11/12/2018 6:15:43 PM	41447
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/12/2018 6:15:43 PM	41447
Toluene	ND	0.047		mg/Kg	1	11/12/2018 6:15:43 PM	41447
Ethylbenzene	ND	0.047		mg/Kg	1	11/12/2018 6:15:43 PM	41447
Xylenes, Total	ND	0.095		mg/Kg	1	11/12/2018 6:15:43 PM	41447
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	1	11/12/2018 6:15:43 PM	41447

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

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

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Analytical Report

Lab Order 1811509

Date Reported: 11/13/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: L8

Project: Eagle State 4

Collection Date: 11/6/2018 1:30:00 PM

Lab ID: 1811509-007

Matrix: SOIL

Received Date: 11/9/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	11/12/2018 12:32:35 PM	41467
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	26	9.6		mg/Kg	1	11/12/2018 7:43:33 PM	41448
Motor Oil Range Organics (MRO)	72	48		mg/Kg	1	11/12/2018 7:43:33 PM	41448
Surr: DNOP	109	50.6-138		%Rec	1	11/12/2018 7:43:33 PM	41448
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/12/2018 7:02:44 PM	41447
Surr: BFB	103	73.8-119		%Rec	1	11/12/2018 7:02:44 PM	41447
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	11/12/2018 7:02:44 PM	41447
Toluene	ND	0.049		mg/Kg	1	11/12/2018 7:02:44 PM	41447
Ethylbenzene	ND	0.049		mg/Kg	1	11/12/2018 7:02:44 PM	41447
Xylenes, Total	ND	0.098		mg/Kg	1	11/12/2018 7:02:44 PM	41447
Surr: 4-Bromofluorobenzene	117	80-120		%Rec	1	11/12/2018 7:02:44 PM	41447

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

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

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Analytical Report

Lab Order 1811509

Date Reported: 11/13/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: L10-1

Project: Eagle State 4

Collection Date: 11/6/2018 1:40:00 PM

Lab ID: 1811509-008

Matrix: SOIL

Received Date: 11/9/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	720	30		mg/Kg	20	11/12/2018 12:44:59 PM	41467
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	200	9.8		mg/Kg	1	11/12/2018 8:07:24 PM	41448
Motor Oil Range Organics (MRO)	400	49		mg/Kg	1	11/12/2018 8:07:24 PM	41448
Surr: DNOP	107	50.6-138		%Rec	1	11/12/2018 8:07:24 PM	41448
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/12/2018 7:26:15 PM	41447
Surr: BFB	99.9	73.8-119		%Rec	1	11/12/2018 7:26:15 PM	41447
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	11/12/2018 7:26:15 PM	41447
Toluene	ND	0.050		mg/Kg	1	11/12/2018 7:26:15 PM	41447
Ethylbenzene	ND	0.050		mg/Kg	1	11/12/2018 7:26:15 PM	41447
Xylenes, Total	ND	0.10		mg/Kg	1	11/12/2018 7:26:15 PM	41447
Surr: 4-Bromofluorobenzene	114	80-120		%Rec	1	11/12/2018 7:26:15 PM	41447

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

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

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Analytical Report

Lab Order 1811509

Date Reported: 11/13/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: L11

Project: Eagle State 4

Collection Date: 11/6/2018 1:50:00 PM

Lab ID: 1811509-009

Matrix: SOIL

Received Date: 11/9/2018 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	11/12/2018 12:57:24 PM	41467
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/12/2018 9:19:22 PM	41448
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/12/2018 9:19:22 PM	41448
Surr: DNOP	99.4	50.6-138		%Rec	1	11/12/2018 9:19:22 PM	41448
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/12/2018 7:50:04 PM	41447
Surr: BFB	102	73.8-119		%Rec	1	11/12/2018 7:50:04 PM	41447
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	11/12/2018 7:50:04 PM	41447
Toluene	ND	0.047		mg/Kg	1	11/12/2018 7:50:04 PM	41447
Ethylbenzene	ND	0.047		mg/Kg	1	11/12/2018 7:50:04 PM	41447
Xylenes, Total	ND	0.094		mg/Kg	1	11/12/2018 7:50:04 PM	41447
Surr: 4-Bromofluorobenzene	116	80-120		%Rec	1	11/12/2018 7:50:04 PM	41447

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

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

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

WO#: 1811509

13-Nov-18

Client: Souder, Miller & Associates**Project:** Eagle State 4

Sample ID	MB-41452	SampType:	mblk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	41452	RunNo:	55558					
Prep Date:	11/9/2018	Analysis Date:	11/9/2018	SeqNo:	1850186	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-41452	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	41452	RunNo:	55558					
Prep Date:	11/9/2018	Analysis Date:	11/9/2018	SeqNo:	1850187	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.0	90	110			

Sample ID	MB-41467	SampType:	mblk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	41467	RunNo:	55575					
Prep Date:	11/12/2018	Analysis Date:	11/12/2018	SeqNo:	1851210	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-41467	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	41467	RunNo:	55575					
Prep Date:	11/12/2018	Analysis Date:	11/12/2018	SeqNo:	1851211	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.8	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

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

WO#: 1811509

13-Nov-18

Client: Souder, Miller & Associates**Project:** Eagle State 4

Sample ID LCS-41448	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 41448		RunNo: 55579							
Prep Date: 11/9/2018	Analysis Date: 11/12/2018		SeqNo: 1850760		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	85.9	70	130			
Surr: DNOP	4.7		5.000		94.5	50.6	138			

Sample ID MB-41448	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 41448		RunNo: 55579							
Prep Date: 11/9/2018	Analysis Date: 11/12/2018		SeqNo: 1850761		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	10		10.00		104	50.6	138			

Sample ID 1811509-009AMS	SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: L11	Batch ID: 41448		RunNo: 55579							
Prep Date: 11/9/2018	Analysis Date: 11/12/2018		SeqNo: 1851872		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	9.5	47.35	0	84.7	53.5	126			
Surr: DNOP	4.6		4.735		96.4	50.6	138			

Sample ID 1811509-009AMSD	SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: L11	Batch ID: 41448		RunNo: 55579							
Prep Date: 11/9/2018	Analysis Date: 11/12/2018		SeqNo: 1851873		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.7	48.36	0	87.6	53.5	126	5.47	21.7	
Surr: DNOP	4.8		4.836		100	50.6	138	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 Quantitative Limit
S % Recovery outside of range due to dilution or matrix

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

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

WO#: 1811509

13-Nov-18

Client: Souder, Miller & Associates**Project:** Eagle State 4

Sample ID MB-41447	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 41447		RunNo: 55580							
Prep Date: 11/9/2018	Analysis Date: 11/12/2018		SeqNo: 1851079		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		101	73.8	119			

Sample ID LCS-41447	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 41447		RunNo: 55580							
Prep Date: 11/9/2018	Analysis Date: 11/12/2018		SeqNo: 1851080		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	80.1	123			
Surr: BFB	1100		1000		113	73.8	119			

Qualifiers:

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

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

WO#: 1811509

13-Nov-18

Client: Souder, Miller & Associates**Project:** Eagle State 4

Sample ID	MB-41447		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 41447		RunNo: 55580					
Prep Date:	11/9/2018		Analysis Date: 11/12/2018		SeqNo: 1851093		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	1.2		1.000		116	80	120			

Sample ID	LCS-41447		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 41447		RunNo: 55580					
Prep Date:	11/9/2018		Analysis Date: 11/12/2018		SeqNo: 1851094		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.1	80	120			
Toluene	0.96	0.050	1.000	0	95.6	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.9	80	120			
Surr: 4-Bromofluorobenzene	1.4		1.000		138	80	120			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 Quantitative Limit
S % Recovery outside of range due to dilution or matrix

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

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Hall Environmental Analysis Laboratory
 4901 Hawkins NE
 Albuquerque, NM 87105
 TEL: 505-345-3975 FAX: 505-345-4105
 Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1811509

RcptNo: 1

Received By: Victoria Zellar 11/9/2018 8:50:00 AM

Completed By: Ashley Gallegos 11/9/2018 9:37:25 AM

Reviewed By:

JAR 11/9/18

Victoria Zellar
 labeled by: DAD 11/09/18

Chain of Custody

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

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted?

Checked by: DAD 11/09/18

Special Handling (if applicable)

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

Person Notified:

Date:

By Whom:

Via:

☐ eMail☐ Phone☐ Fax☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.1	Good	Yes			

Chain-of-Custody Record

Client: SMA Carl Road

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 ☒ Rush5dy

Project Name:

Eagle State #4

Project #:

Project Manager:

Arden Wayne

Sampler:

On Ice: ☒ Yes ☐ No# of Coolers: 1Cooler Temp (including CP): 44

Container Type and #

Az

Preservative Type

HEAL No. 181509-001-002-003-004-005-006-007-008-009-010-011-012-013-014-015-016-017-018-019-020-021-022-023-024-025-026-027-028-029-030-031-032-033-034-035-036-037-038-039-040-041-042-043-044-045-046-047-048-049-050-051-052-053-054-055-056-057-058-059-060-061-062-063-064-065-066-067-068-069-070-071-072-073-074-075-076-077-078-079-080-081-082-083-084-085-086-087-088-089-090-091-092-093-094-095-096-097-098-099-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311



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

January 16, 2019

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

RE: Eagle State

OrderNo.: 1901435

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 11 sample(s) on 1/11/2019 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,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1901435

Date Reported: 1/16/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: BH 1-5.5'

Project: Eagle State

Collection Date: 1/9/2019 11:30:00 AM

Lab ID: 1901435-001

Matrix: SOIL

Received Date: 1/11/2019 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: IRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	1/15/2019 12:49:04 PM	42587
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/15/2019 12:49:04 PM	42587
Surr: DNOP	106	50.6-138		%Rec	1	1/15/2019 12:49:04 PM	42587
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/14/2019 10:32:46 PM	42560
Surr: BFB	91.3	73.8-119		%Rec	1	1/14/2019 10:32:46 PM	42560

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

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

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Analytical Report

Lab Order 1901435

Date Reported: 1/16/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: BH 1-2'

Project: Eagle State

Collection Date: 1/9/2019 11:10:00 AM

Lab ID: 1901435-002

Matrix: SOIL

Received Date: 1/11/2019 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: irm
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/15/2019 1:11:01 PM	42587
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/15/2019 1:11:01 PM	42587
Surr: DNOP	105	50.6-138		%Rec	1	1/15/2019 1:11:01 PM	42587
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/14/2019 10:55:23 PM	42560
Surr: BFB	93.2	73.8-119		%Rec	1	1/14/2019 10:55:23 PM	42560

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

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

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Analytical Report

Lab Order 1901435

Date Reported: 1/16/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: BH 1-3'

Project: Eagle State

Collection Date: 1/9/2019 11:20:00 AM

Lab ID: 1901435-003

Matrix: SOIL

Received Date: 1/11/2019 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/15/2019 1:33:06 PM	42587
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/15/2019 1:33:06 PM	42587
Surr: DNOP	98.4	50.6-138		%Rec	1	1/15/2019 1:33:06 PM	42587
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/15/2019 7:57:20 PM	42579
Surr: BFB	97.5	73.8-119		%Rec	1	1/15/2019 7:57:20 PM	42579

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

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

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Analytical Report

Lab Order 1901435

Date Reported: 1/16/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: BH 1-4'

Project: Eagle State

Collection Date: 1/9/2019 11:30:00 AM

Lab ID: 1901435-004

Matrix: SOIL

Received Date: 1/11/2019 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: IRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/15/2019 1:55:04 PM	42587
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/15/2019 1:55:04 PM	42587
Surr: DNOP	94.0	50.6-138		%Rec	1	1/15/2019 1:55:04 PM	42587
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/15/2019 8:20:49 PM	42579
Surr: BFB	96.2	73.8-119		%Rec	1	1/15/2019 8:20:49 PM	42579

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

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

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Analytical Report

Lab Order 1901435

Date Reported: 1/16/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: L4-1 Surface

Project: Eagle State

Collection Date: 1/9/2019 9:15:00 AM

Lab ID: 1901435-005

Matrix: SOIL

Received Date: 1/11/2019 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	1/15/2019 2:17:13 PM	42587
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/15/2019 2:17:13 PM	42587
Surr: DNOP	94.6	50.6-138		%Rec	1	1/15/2019 2:17:13 PM	42587
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/15/2019 8:44:18 PM	42579
Surr: BFB	95.7	73.8-119		%Rec	1	1/15/2019 8:44:18 PM	42579

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

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

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Analytical Report

Lab Order 1901435

Date Reported: 1/16/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: L3-2'

Project: Eagle State

Collection Date: 1/9/2019 9:30:00 AM

Lab ID: 1901435-006

Matrix: SOIL

Received Date: 1/11/2019 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	1/15/2019 2:39:06 PM	42587
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/15/2019 2:39:06 PM	42587
Surr: DNOP	88.0	50.6-138		%Rec	1	1/15/2019 2:39:06 PM	42587
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/15/2019 9:07:45 PM	42579
Surr: BFB	95.6	73.8-119		%Rec	1	1/15/2019 9:07:45 PM	42579

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

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

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Analytical Report

Lab Order 1901435

Date Reported: 1/16/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: L3-4'

Project: Eagle State

Collection Date: 1/9/2019 9:40:00 AM

Lab ID: 1901435-007

Matrix: SOIL

Received Date: 1/11/2019 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	68	30		mg/Kg	20	1/15/2019 9:08:17 PM	42610
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/15/2019 3:23:02 PM	42587
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/15/2019 3:23:02 PM	42587
Surr: DNOP	92.4	50.6-138		%Rec	1	1/15/2019 3:23:02 PM	42587
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/15/2019 9:31:08 PM	42579
Surr: BFB	95.3	73.8-119		%Rec	1	1/15/2019 9:31:08 PM	42579

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

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

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Analytical Report

Lab Order 1901435

Date Reported: 1/16/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: L1-2'

Project: Eagle State

Collection Date: 1/9/2019 10:20:00 AM

Lab ID: 1901435-008

Matrix: SOIL

Received Date: 1/11/2019 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	1/15/2019 3:45:00 PM	42587
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/15/2019 3:45:00 PM	42587
Surr: DNOP	91.3	50.6-138		%Rec	1	1/15/2019 3:45:00 PM	42587
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/15/2019 9:54:31 PM	42579
Surr: BFB	97.6	73.8-119		%Rec	1	1/15/2019 9:54:31 PM	42579

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

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

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Analytical Report

Lab Order 1901435

Date Reported: 1/16/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: L1-4'

Project: Eagle State

Collection Date: 1/9/2019 10:30:00 AM

Lab ID: 1901435-009

Matrix: SOIL

Received Date: 1/11/2019 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/15/2019 4:06:57 PM	42587
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/15/2019 4:06:57 PM	42587
Surr: DNOP	92.5	50.6-138		%Rec	1	1/15/2019 4:06:57 PM	42587
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/15/2019 10:17:54 PM	42579
Surr: BFB	96.3	73.8-119		%Rec	1	1/15/2019 10:17:54 PM	42579

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

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

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Analytical Report

Lab Order 1901435

Date Reported: 1/16/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: L 10-4 Surface

Project: Eagle State

Collection Date: 1/9/2019 12:30:00 PM

Lab ID: 1901435-010

Matrix: SOIL

Received Date: 1/11/2019 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	ND	30		mg/Kg	20	1/15/2019 9:45:31 PM	42610
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	1/15/2019 4:29:01 PM	42587
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/15/2019 4:29:01 PM	42587
Surr: DNOP	92.4	50.6-138		%Rec	1	1/15/2019 4:29:01 PM	42587
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/15/2019 10:41:16 PM	42579
Surr: BFB	96.8	73.8-119		%Rec	1	1/15/2019 10:41:16 PM	42579

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

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

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Analytical Report

Lab Order 1901435

Date Reported: 1/16/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: L6

Project: Eagle State

Collection Date: 1/9/2019 1:00:00 PM

Lab ID: 1901435-011

Matrix: SOIL

Received Date: 1/11/2019 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	170	30		mg/Kg	20	1/15/2019 10:22:43 PM	42610
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	28	10		mg/Kg	1	1/15/2019 4:50:51 PM	42587
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/15/2019 4:50:51 PM	42587
Surr: DNOP	95.5	50.6-138		%Rec	1	1/15/2019 4:50:51 PM	42587
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/15/2019 11:04:38 PM	42579
Surr: BFB	96.1	73.8-119		%Rec	1	1/15/2019 11:04:38 PM	42579

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

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

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

WO#: 1901435

16-Jan-19

Client: Souder, Miller & Associates**Project:** Eagle State

Sample ID	MB-42610	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	42610	RunNo:	57023					
Prep Date:	1/15/2019	Analysis Date:	1/15/2019	SeqNo:	1907795	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-42610	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	42610	RunNo:	57023					
Prep Date:	1/15/2019	Analysis Date:	1/15/2019	SeqNo:	1907796	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.5	90	110			

Qualifiers:

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

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

WO#: 1901435

16-Jan-19

Client: Souder, Miller & Associates**Project:** Eagle State

Sample ID LCS-42587	SampType: LCS			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch ID: 42587			RunNo: 56995						
Prep Date: 1/14/2019	Analysis Date: 1/15/2019			SeqNo: 1907135		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	105	63.9	124			
Surr: DNOP	4.4		5.000		87.9	50.6	138			

Sample ID MB-42587	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 42587			RunNo: 56995						
Prep Date: 1/14/2019	Analysis Date: 1/15/2019			SeqNo: 1907136		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.1		10.00		91.0	50.6	138			

Sample ID 1901435-011AMS	SampType: MS			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: L6	Batch ID: 42587			RunNo: 56995						
Prep Date: 1/14/2019	Analysis Date: 1/15/2019			SeqNo: 1907372		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	63	9.6	47.94	27.99	72.6	53.5	126			
Surr: DNOP	4.7		4.794		97.7	50.6	138			

Sample ID 1901435-011AMSD	SampType: MSD			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: L6	Batch ID: 42587			RunNo: 56995						
Prep Date: 1/14/2019	Analysis Date: 1/15/2019			SeqNo: 1907373		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	9.7	48.26	27.99	65.3	53.5	126	5.39	21.7	
Surr: DNOP	4.7		4.826		97.6	50.6	138	0	0	

Qualifiers:

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

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

WO#: 1901435

16-Jan-19

Client: Souder, Miller & Associates**Project:** Eagle State

Sample ID MB-42560	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 42560			RunNo: 56984						
Prep Date: 1/11/2019	Analysis Date: 1/14/2019			SeqNo: 1906212		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	930		1000		92.6	73.8	119			

Sample ID LCS-42560	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 42560			RunNo: 56984						
Prep Date: 1/11/2019	Analysis Date: 1/14/2019			SeqNo: 1906213		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.2	80.1	123			
Surr: BFB	1100		1000		111	73.8	119			

Sample ID MB-42579	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 42579			RunNo: 57015						
Prep Date: 1/14/2019	Analysis Date: 1/15/2019			SeqNo: 1907269		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		100	73.8	119			

Sample ID LCS-42579	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 42579			RunNo: 57015						
Prep Date: 1/14/2019	Analysis Date: 1/15/2019			SeqNo: 1907270		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.7	80.1	123			
Surr: BFB	1100		1000		115	73.8	119			

Sample ID 1901435-003AMS	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: BH 1-3'	Batch ID: 42579			RunNo: 57015						
Prep Date: 1/14/2019	Analysis Date: 1/15/2019			SeqNo: 1907282		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	24.90	0	99.0	69.1	142			
Surr: BFB	1100		996.0		109	73.8	119			

Sample ID 1901435-003AMSD	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: BH 1-3'	Batch ID: 42579			RunNo: 57015						
Prep Date: 1/14/2019	Analysis Date: 1/15/2019			SeqNo: 1907283		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

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

WO#: 1901435

16-Jan-19

Client: Souder, Miller & Associates**Project:** Eagle State

Sample ID	1901435-003AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	BH 1-3'	Batch ID:	42579	RunNo:	57015					
Prep Date:	1/14/2019	Analysis Date:	1/15/2019	SeqNo:	1907283	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.9	24.51	0	98.6	69.1	142	1.99	20	
Surr: BFB	1100		980.4		108	73.8	119	0	0	

Sample ID	MB-42555	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	42555	RunNo:	57016					
Prep Date:	1/11/2019	Analysis Date:	1/15/2019	SeqNo:	1907340	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	910		1000		90.6	73.8	119			

Sample ID	LCS-42555	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	42555	RunNo:	57016					
Prep Date:	1/11/2019	Analysis Date:	1/15/2019	SeqNo:	1907341	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		115	73.8	119			

Qualifiers:

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



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

Sample Log-In Check List

Client Name: **SMA-CARLSBAD**Work Order Number: **1901435**RcptNo: **1**Received By: **Desiree Dominguez**

1/11/2019 9:00:00 AM

Completed By: **Erin Melendrez**

1/11/2019 10:43:58 AM

Reviewed By: **VVZ 1/11/19****LB: DAD 1/11/19**

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. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒10. Were any sample containers received broken? Yes ☐ No ☒11. Does paperwork match bottle labels? Yes ☒ No ☐

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐13. Is it clear what analyses were requested? Yes ☒ No ☐14. Were all holding times able to be met? Yes ☒ No ☐

(If no, notify customer for authorization.)

of preserved
bottles checked
for pH:
(<2 or >12 unless noted)

Adjusted? _____

Checked by: **DAD 1/11/19**

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	3.1	Good	Not Present			



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

February 05, 2019

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

RE: Eagle State

OrderNo.: 1901B23

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 8 sample(s) on 1/30/2019 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,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1901B23

Date Reported: 2/5/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: BH 1

Project: Eagle State

Collection Date: 1/25/2019 3:00:00 PM

Lab ID: 1901B23-001

Matrix: SOIL

Received Date: 1/30/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	94	30		mg/Kg	20	2/1/2019 2:19:12 PM	42938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	56	9.9		mg/Kg	1	2/1/2019 1:45:26 PM	42920
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/1/2019 1:45:26 PM	42920
Surr: DNOP	104	50.6-138		%Rec	1	2/1/2019 1:45:26 PM	42920
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/1/2019 11:59:46 AM	42912
Surr: BFB	95.4	73.8-119		%Rec	1	2/1/2019 11:59:46 AM	42912
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	2/1/2019 11:59:46 AM	42912
Toluene	ND	0.047		mg/Kg	1	2/1/2019 11:59:46 AM	42912
Ethylbenzene	ND	0.047		mg/Kg	1	2/1/2019 11:59:46 AM	42912
Xylenes, Total	ND	0.095		mg/Kg	1	2/1/2019 11:59:46 AM	42912
Surr: 4-Bromofluorobenzene	93.7	80-120		%Rec	1	2/1/2019 11:59:46 AM	42912

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

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

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Analytical Report

Lab Order 1901B23

Date Reported: 2/5/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: BH 2

Project: Eagle State

Collection Date: 1/25/2019 3:05:00 PM

Lab ID: 1901B23-002

Matrix: SOIL

Received Date: 1/30/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	2/1/2019 3:21:16 PM	42938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/1/2019 3:13:54 PM	42920
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/1/2019 3:13:54 PM	42920
Surr: DNOP	103	50.6-138		%Rec	1	2/1/2019 3:13:54 PM	42920
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/1/2019 1:10:45 PM	42912
Surr: BFB	97.1	73.8-119		%Rec	1	2/1/2019 1:10:45 PM	42912
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	2/1/2019 1:10:45 PM	42912
Toluene	ND	0.049		mg/Kg	1	2/1/2019 1:10:45 PM	42912
Ethylbenzene	ND	0.049		mg/Kg	1	2/1/2019 1:10:45 PM	42912
Xylenes, Total	ND	0.098		mg/Kg	1	2/1/2019 1:10:45 PM	42912
Surr: 4-Bromofluorobenzene	95.7	80-120		%Rec	1	2/1/2019 1:10:45 PM	42912

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

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

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Analytical Report

Lab Order 1901B23

Date Reported: 2/5/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: BH 3

Project: Eagle State

Collection Date: 1/25/2019 3:10:00 PM

Lab ID: 1901B23-003

Matrix: SOIL

Received Date: 1/30/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	63	30		mg/Kg	20	2/1/2019 3:33:40 PM	42938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/1/2019 3:36:08 PM	42920
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/1/2019 3:36:08 PM	42920
Surr: DNOP	111	50.6-138		%Rec	1	2/1/2019 3:36:08 PM	42920
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/1/2019 2:21:46 PM	42912
Surr: BFB	98.0	73.8-119		%Rec	1	2/1/2019 2:21:46 PM	42912
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	2/1/2019 2:21:46 PM	42912
Toluene	ND	0.048		mg/Kg	1	2/1/2019 2:21:46 PM	42912
Ethylbenzene	ND	0.048		mg/Kg	1	2/1/2019 2:21:46 PM	42912
Xylenes, Total	ND	0.096		mg/Kg	1	2/1/2019 2:21:46 PM	42912
Surr: 4-Bromofluorobenzene	96.0	80-120		%Rec	1	2/1/2019 2:21:46 PM	42912

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

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

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Analytical Report

Lab Order 1901B23

Date Reported: 2/5/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: BH 4

Project: Eagle State

Collection Date: 1/25/2019 3:15:00 PM

Lab ID: 1901B23-004

Matrix: SOIL

Received Date: 1/30/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	35	30		mg/Kg	20	2/1/2019 3:46:05 PM	42938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/31/2019 2:40:27 PM	42898
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/31/2019 2:40:27 PM	42898
Surr: DNOP	116	50.6-138		%Rec	1	1/31/2019 2:40:27 PM	42898
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/31/2019 9:29:37 PM	42896
Surr: BFB	96.4	73.8-119		%Rec	1	1/31/2019 9:29:37 PM	42896
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/31/2019 9:29:37 PM	42896
Toluene	ND	0.048		mg/Kg	1	1/31/2019 9:29:37 PM	42896
Ethylbenzene	ND	0.048		mg/Kg	1	1/31/2019 9:29:37 PM	42896
Xylenes, Total	ND	0.095		mg/Kg	1	1/31/2019 9:29:37 PM	42896
Surr: 4-Bromofluorobenzene	95.4	80-120		%Rec	1	1/31/2019 9:29:37 PM	42896

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

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

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Analytical Report

Lab Order 1901B23

Date Reported: 2/5/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: SW 1

Project: Eagle State

Collection Date: 1/25/2019 3:20:00 PM

Lab ID: 1901B23-005

Matrix: SOIL

Received Date: 1/30/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	2/1/2019 3:58:29 PM	42938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/31/2019 3:04:51 PM	42898
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/31/2019 3:04:51 PM	42898
Surr: DNOP	97.9	50.6-138		%Rec	1	1/31/2019 3:04:51 PM	42898
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/31/2019 9:53:12 PM	42896
Surr: BFB	95.4	73.8-119		%Rec	1	1/31/2019 9:53:12 PM	42896
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/31/2019 9:53:12 PM	42896
Toluene	ND	0.048		mg/Kg	1	1/31/2019 9:53:12 PM	42896
Ethylbenzene	ND	0.048		mg/Kg	1	1/31/2019 9:53:12 PM	42896
Xylenes, Total	ND	0.096		mg/Kg	1	1/31/2019 9:53:12 PM	42896
Surr: 4-Bromofluorobenzene	93.1	80-120		%Rec	1	1/31/2019 9:53:12 PM	42896

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

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

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Analytical Report

Lab Order 1901B23

Date Reported: 2/5/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: SW 2

Project: Eagle State

Collection Date: 1/25/2019 3:25:00 PM

Lab ID: 1901B23-006

Matrix: SOIL

Received Date: 1/30/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	31	30		mg/Kg	20	2/1/2019 4:10:54 PM	42938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	1/31/2019 3:29:14 PM	42898
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/31/2019 3:29:14 PM	42898
Surr: DNOP	100	50.6-138		%Rec	1	1/31/2019 3:29:14 PM	42898
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/31/2019 10:16:44 PM	42896
Surr: BFB	98.6	73.8-119		%Rec	1	1/31/2019 10:16:44 PM	42896
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/31/2019 10:16:44 PM	42896
Toluene	ND	0.048		mg/Kg	1	1/31/2019 10:16:44 PM	42896
Ethylbenzene	ND	0.048		mg/Kg	1	1/31/2019 10:16:44 PM	42896
Xylenes, Total	ND	0.096		mg/Kg	1	1/31/2019 10:16:44 PM	42896
Surr: 4-Bromofluorobenzene	97.0	80-120		%Rec	1	1/31/2019 10:16:44 PM	42896

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

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

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Analytical Report

Lab Order 1901B23

Date Reported: 2/5/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: SW 3

Project: Eagle State

Collection Date: 1/25/2019 3:30:00 PM

Lab ID: 1901B23-007

Matrix: SOIL

Received Date: 1/30/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	2/1/2019 4:23:18 PM	42938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/31/2019 3:53:44 PM	42898
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/31/2019 3:53:44 PM	42898
Surr: DNOP	100	50.6-138		%Rec	1	1/31/2019 3:53:44 PM	42898
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/31/2019 10:40:13 PM	42896
Surr: BFB	94.4	73.8-119		%Rec	1	1/31/2019 10:40:13 PM	42896
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/31/2019 10:40:13 PM	42896
Toluene	ND	0.048		mg/Kg	1	1/31/2019 10:40:13 PM	42896
Ethylbenzene	ND	0.048		mg/Kg	1	1/31/2019 10:40:13 PM	42896
Xylenes, Total	ND	0.095		mg/Kg	1	1/31/2019 10:40:13 PM	42896
Surr: 4-Bromofluorobenzene	93.1	80-120		%Rec	1	1/31/2019 10:40:13 PM	42896

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

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

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Analytical Report

Lab Order 1901B23

Date Reported: 2/5/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: SW 4

Project: Eagle State

Collection Date: 1/25/2019 3:35:00 PM

Lab ID: 1901B23-008

Matrix: SOIL

Received Date: 1/30/2019 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	90	30		mg/Kg	20	2/1/2019 4:35:42 PM	42938
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	40	10		mg/Kg	1	1/31/2019 4:18:01 PM	42898
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/31/2019 4:18:01 PM	42898
Surr: DNOP	98.4	50.6-138		%Rec	1	1/31/2019 4:18:01 PM	42898
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/31/2019 11:03:44 PM	42896
Surr: BFB	96.1	73.8-119		%Rec	1	1/31/2019 11:03:44 PM	42896
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/31/2019 11:03:44 PM	42896
Toluene	ND	0.047		mg/Kg	1	1/31/2019 11:03:44 PM	42896
Ethylbenzene	ND	0.047		mg/Kg	1	1/31/2019 11:03:44 PM	42896
Xylenes, Total	ND	0.094		mg/Kg	1	1/31/2019 11:03:44 PM	42896
Surr: 4-Bromofluorobenzene	94.5	80-120		%Rec	1	1/31/2019 11:03:44 PM	42896

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

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

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1901B23
05-Feb-19

Client: Souder, Miller & Associates
Project: Eagle State

Sample ID	MB-42938	SampType:	mblk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	42938	RunNo:	57439					
Prep Date:	2/1/2019	Analysis Date:	2/1/2019	SeqNo:	1921458	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-42938	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	42938	RunNo:	57439					
Prep Date:	2/1/2019	Analysis Date:	2/1/2019	SeqNo:	1921459	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.1	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

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

WO#: 1901B23

05-Feb-19

Client: Souder, Miller & Associates**Project:** Eagle State

Sample ID LCS-42898	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 42898		RunNo: 57376							
Prep Date: 1/30/2019	Analysis Date: 1/31/2019		SeqNo: 1919877		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	63.9	124			
Surr: DNOP	5.9		5.000		118	50.6	138			

Sample ID MB-42898	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 42898		RunNo: 57376							
Prep Date: 1/30/2019	Analysis Date: 1/31/2019		SeqNo: 1919878		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	15		10.00		145	50.6	138			S

Sample ID LCS-42920	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 42920		RunNo: 57413							
Prep Date: 1/31/2019	Analysis Date: 2/1/2019		SeqNo: 1921491		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	10	50.00	0	120	63.9	124			
Surr: DNOP	5.4		5.000		107	50.6	138			

Sample ID MB-42920	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 42920		RunNo: 57413							
Prep Date: 1/31/2019	Analysis Date: 2/1/2019		SeqNo: 1921492		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	12		10.00		121	50.6	138			

Sample ID 1901B23-001AMS	SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: BH 1	Batch ID: 42920		RunNo: 57413							
Prep Date: 1/31/2019	Analysis Date: 2/1/2019		SeqNo: 1921560		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	66	9.7	48.69	55.69	21.8	53.5	126			S
Surr: DNOP	5.0		4.869		103	50.6	138			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1901B23
05-Feb-19

Client: Souder, Miller & Associates
Project: Eagle State

Sample ID	1901B23-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	BH 1	Batch ID:	42920	RunNo:	57413					
Prep Date:	1/31/2019	Analysis Date:	2/1/2019	SeqNo:	1921561	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	73	9.5	47.71	55.69	36.6	53.5	126	9.87	21.7	S
Surr: DNOP	5.6		4.771		118	50.6	138	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 Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**WO#: **1901B23****05-Feb-19****Client:** Souder, Miller & Associates**Project:** Eagle State

Sample ID MB-42896	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 42896			RunNo: 57398						
Prep Date: 1/30/2019	Analysis Date: 1/31/2019			SeqNo: 1920432		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	950		1000		95.2	73.8	119			

Sample ID LCS-42896	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 42896			RunNo: 57398						
Prep Date: 1/30/2019	Analysis Date: 1/31/2019			SeqNo: 1920433		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	80.1	123			
Surr: BFB	1100		1000		112	73.8	119			

Sample ID MB-42912	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 42912			RunNo: 57419						
Prep Date: 1/31/2019	Analysis Date: 2/1/2019			SeqNo: 1921196		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	960		1000		95.7	73.8	119			

Sample ID LCS-42912	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 42912			RunNo: 57419						
Prep Date: 1/31/2019	Analysis Date: 2/1/2019			SeqNo: 1921197		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	110	80.1	123			
Surr: BFB	1100		1000		114	73.8	119			

Sample ID 1901B23-002AMS	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: BH 2	Batch ID: 42912			RunNo: 57419						
Prep Date: 1/31/2019	Analysis Date: 2/1/2019			SeqNo: 1921200		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	24.80	0	115	69.1	142			
Surr: BFB	1100		992.1		110	73.8	119			

Sample ID 1901B23-002AMSD	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: BH 2	Batch ID: 42912			RunNo: 57419						
Prep Date: 1/31/2019	Analysis Date: 2/1/2019			SeqNo: 1921201		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1901B23
05-Feb-19

Client: Souder, Miller & Associates
Project: Eagle State

Sample ID	1901B23-002AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	BH 2	Batch ID:	42912	RunNo:	57419					
Prep Date:	1/31/2019	Analysis Date:	2/1/2019	SeqNo:	1921201	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.8	24.06	0	114	69.1	142	4.25	20	
Surr: BFB	1100		962.5		110	73.8	119	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 Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

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

WO#: 1901B23

05-Feb-19

Client: Souder, Miller & Associates**Project:** Eagle State

Sample ID	MB-42896		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	42896		RunNo:	57398			
Prep Date:	1/30/2019		Analysis Date:	1/31/2019		SeqNo:	1920461	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	0.93		1.000		93.3	80	120			

Sample ID	LCS-42896		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	42896		RunNo:	57398			
Prep Date:	1/30/2019		Analysis Date:	1/31/2019		SeqNo:	1920462	Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.3	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.4	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.9	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

Sample ID	MB-42912		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	42912		RunNo:	57419			
Prep Date:	1/31/2019		Analysis Date:	2/1/2019		SeqNo:	1921221	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	0.94		1.000		93.9	80	120			

Sample ID	LCS-42912		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	42912		RunNo:	57419			
Prep Date:	1/31/2019		Analysis Date:	2/1/2019		SeqNo:	1921222	Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	91.6	80	120			
Toluene	0.95	0.050	1.000	0	95.1	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.3	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.5	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

Qualifiers:

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

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**WO#: **1901B23****05-Feb-19****Client:** Souder, Miller & Associates**Project:** Eagle State

Sample ID	1901B23-001AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	BH 1	Batch ID:	42912	RunNo:	57419					
Prep Date:	1/31/2019	Analysis Date:	2/1/2019	SeqNo:	1921224	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.023	0.9320	0	94.5	63.9	127			
Toluene	0.92	0.047	0.9320	0	98.7	69.9	131			
Ethylbenzene	0.93	0.047	0.9320	0.01078	98.8	71	132			
Xylenes, Total	2.8	0.093	2.796	0	101	71.8	131			
Surr: 4-Bromofluorobenzene	0.87		0.9320		93.1	80	120			

Sample ID	1901B23-001AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	BH 1	Batch ID:	42912	RunNo:	57419					
Prep Date:	1/31/2019	Analysis Date:	2/1/2019	SeqNo:	1921225	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.023	0.9320	0	91.7	63.9	127	2.95	20	
Toluene	0.90	0.047	0.9320	0	96.3	69.9	131	2.41	20	
Ethylbenzene	0.91	0.047	0.9320	0.01078	96.3	71	132	2.54	20	
Xylenes, Total	2.8	0.093	2.796	0	98.6	71.8	131	2.51	20	
Surr: 4-Bromofluorobenzene	0.91		0.9320		97.5	80	120	0	0	

Qualifiers:

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



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

Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1901B23

RcptNo: 1

Received By: Erin Melendrez 1/30/2019 8:45:00 AM
Completed By: Erin Melendrez 1/30/2019 11:28:47 AM
Reviewed By: LB 1/30/19

UAG
UAG

UB: Y6 1/30/19

Chain of Custody

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

Log In

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

of preserved bottles checked for pH: 1/30/19 Y6
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

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

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

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.1	Good	Yes			

Chain-of-Custody Record

Client: SMA
Cocksbad
Mailing Address:

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

Project Name:

Eagle State

Project #:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Project Manager:

A. Weyant

Sampler: LCM

On Ice: ☒ Yes ☐ No

of Coolers:

Cooler Temp (including CF): 4 °C

Container Type and #

Preservative Type

HEAL No.

901 B23

402

-001

-002

-003

-004

-005

-006

-007

-008

Date: 1/29/19 9:00

Relinquished by: Samantha Watson

Date: 1/29/19 1900

Relinquished by: [Signature]

Received by: [Signature]

Via: CDO

Date: 1/29/19 1500

Date: 1/30/19 0845

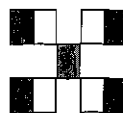
Date: 1/29/19 1500

Date: 1/30/19 0845

Remarks:

Mataador

ignore - gwt



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

MTBE / TMBs (8021) ☒ BTEX
TPH 8015D (GRO / DRO / MRO) ☒
8081 Pesticides/8082 PCBs ☒
EDB (Method 504.1) ☒
PAHs by 8310 or 8270SIMS ☒
RCRA 8 Metals ☒
C, F, B, NO₃, NO₂, PO₄, SO₄ ☒
8260 (VOA) ☒
8270 (Semi-VOA) ☒
Total Coliform (Present/Absent) ☒

APPENDIX E EXCAVATION PHOTO



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 164813

CONDITIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 164813
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved.	3/15/2023