



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

October 9, 2018

#5E26816-BG1

NMOCD District II  
Maria Pruett  
811 South First Street  
Artesia, NM 88210

SUBJECT: REMEDIATION REPORT OF THE EMERGENCY RESPONSE ASSOCIATED WITH THE ZACH MCCORMICK FEDERAL COM #201H (2RP-4742), EDDY COUNTY, NEW MEXICO

Dear Ms. Pruett:

On behalf of Matador Resources Company (Matador), Souder, Miller & Associates (SMA) has prepared this report that describes the initial action, delineation and remediation for a release associated with the Zach McCormick Federal Com #201H. The site is in Unit D, Section 18, Township 24S, Range 29E, Eddy County, New Mexico, on private property. Figure 1 illustrates the vicinity and location of the site.

**Table 1**, below, summarizes information regarding the release.

<b>Table 1: Release Information and Closure Criteria</b>			
Name	Zach McCormick Federal Com #201H	Company	Matador Resources Co.
API Number	30-015-44247	Location	32.223435, -104.032545
Incident Number	2RP-4742		
Estimated Date of Release	4/17/2018	Date Reported to NMOCD	4/17/2018
Land Owner	Private	Reported To	NMOCD District II
Source of Release	Lay flat hose		
Released Volume	239 bbls	Released Material	Produced Water
Recovered Volume	120 bbls	Net Release	119 bbls
NMOCD Closure Criteria	<50 feet to groundwater		
SMA Response Dates	April 17, 2018 – April 19, 2018, May 5, 2018		

## **1.0 Background**

On April 17, 2018, a road crossing for a lay flat hose failed causing a recycled water travel along the road. Fluids continued to cross the road into the irrigation ditch east of the road. Approximately two hundred thirty-nine (239) barrels of recycle water were released. One hundred nineteen (119) barrels were recovered using a vacuum truck during the initial response. The release is illustrated on Figures 1 and 2.

Zack McCormick Emergency Response  
October 9, 2018

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## **2.0 Site Information and Closure Criteria**

The Zach McCormick Federal Com #201H release location is approximately 950 feet southwest of the Pecos River in Malaga, New Mexico on private land. The location has is at an elevation of approximately 2,960 feet above mean sea level (amsl)

Based upon the New Mexico State Engineer's Office (NMOSE) online water well database (Appendix B), depth to groundwater is estimated to be 42 feet below grade surface (bgs). There is only one well is located within a 1,000-foot radius of the site; Pod C-00983, a domestic freshwater well. The nearest significant water source is the Pecos Rivers, located approximately 950 feet to the north of the northern most point of the release. Figure 1 and 2 illustrate the site with various radii to indicate that the site does lie within a sensitive area as described in 19.15.29.12.C(4) NMAC due to Pod C-00983. 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.

Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B.

## **3.0 Initial Action & Release Characterization**

On April 17, 2018, SMA received a phone call from Matador Resources reporting a release and requesting an emergency response to be initiated. NMOCD was notified and an emergency one call was placed. SMA field personnel mobilized to the emergency response location to perform initial action which included source elimination and site security. SMA personnel were met onsite by the client's sub-contractor, PROs Services. At this time, the road was bladed to prevent further drainage and berms had been placed across the road and vacuum trucks were mobilized to remove the freestanding fluid. After assessing the release area, SMA personnel began to guide the removal of impacted material within the irrigation ditch east of the road. As the landowner was planning to irrigate no matter what, these delineation and excavation efforts continued through April 19 to ensure the affected material was removed before irrigation could spread them.

Soil samples on either side (designated by "SW" samples) and the bottom of the ditch (designated by "L" samples) were collected, and field screened with an electrical conductivity meter (EC) to characterize the release and guide the excavation. The impacted area was excavated until samples returned clean field screens or to refusal (a maximum of 4.75' bgs or 1.5' bgs), whichever came first. In this case, the soil type that acted as a cemented, restrictive layer was the Upton class. The NRCS soil report for the release area is located in Appendix C.

Several background soil samples were also taken across the landowner's field (F1, F2 & F3; FBG1-FBG4). A sample from within the irrigation ditch was taken north of the release and south of the release (Irr North & Irr South). The spill piles were also sent for laboratory analysis (SP1-SP4 & SP1).

All samples were collected and processed according to NMOCD soil sampling procedures. The samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for BTEX by EPA Method 8021, TPH EPA Method 418.1 and chlorides EPA Method 300.0. Sample locations are depicted on Figure 2. All laboratory results are summarized in Table 3. Laboratory reports are included in Appendix D.

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#### **4.0 Conclusions**

SMA completed a delineation and excavation of impacted soil within the irrigation ditch on the morning of April 19, 2018. Because the irrigation water had to pass through the previously affected ditch before reaching the field, several precautions were taken. A plastic liner was placed at the base of the ditch where the water would normally flood into the field. A baseline water sample was collected north of the irrigation inlet, before the landowner's property and affected area was reached. When the ditch gates were lifted, the water flowed through the full length of the ditch and it was collected within the liner. Water samples were collected just before this containment was reached after the release of the first slug of water. A second water sample was collected in the same manner after the second slug of water. These samples (slug #1 and slug #2) were then compared to the inlet water sample. These lab results determined that the initial action taken during the emergency response prevented the irrigation water from being affected, and therefor allowed the landowner to irrigate his field without further contamination.

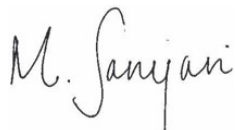
SMA returned to the location on October 25, 2018 to re-collect closures samples that were not below NMOCD closure standards during the initial action. A total of 14 samples were collected and processed according to NMOCD soil sampling procedures. They were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for chlorides EPA Method 300.0.

#### **5.0 Scope and Limitations**

The scope of our services consisted of the performance of assessment sampling, verification of release stabilization, regulatory liaison, and preparation of this work plan. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Austin Weyant at 575-689-8801 or Shawna Chubbuck at (970) 565-4465 x1504 .

Submitted by:  
SOUDER, MILLER & ASSOCIATES



Melodie Sanjari  
Staff Scientist

Reviewed by:



Austin Weyant  
Senior Scientist

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**ATTACHMENTS:**

**Figures:**

Figure 1: Regional Vicinity and Well Head Protection Map

Figure 2: Surface Water Protection Map

Figure 3: Site and Sample Location Map (3A-3C)

**Tables:**

Table 3: Summary of Sample Results

**Appendices:**

Appendix A: Form C141

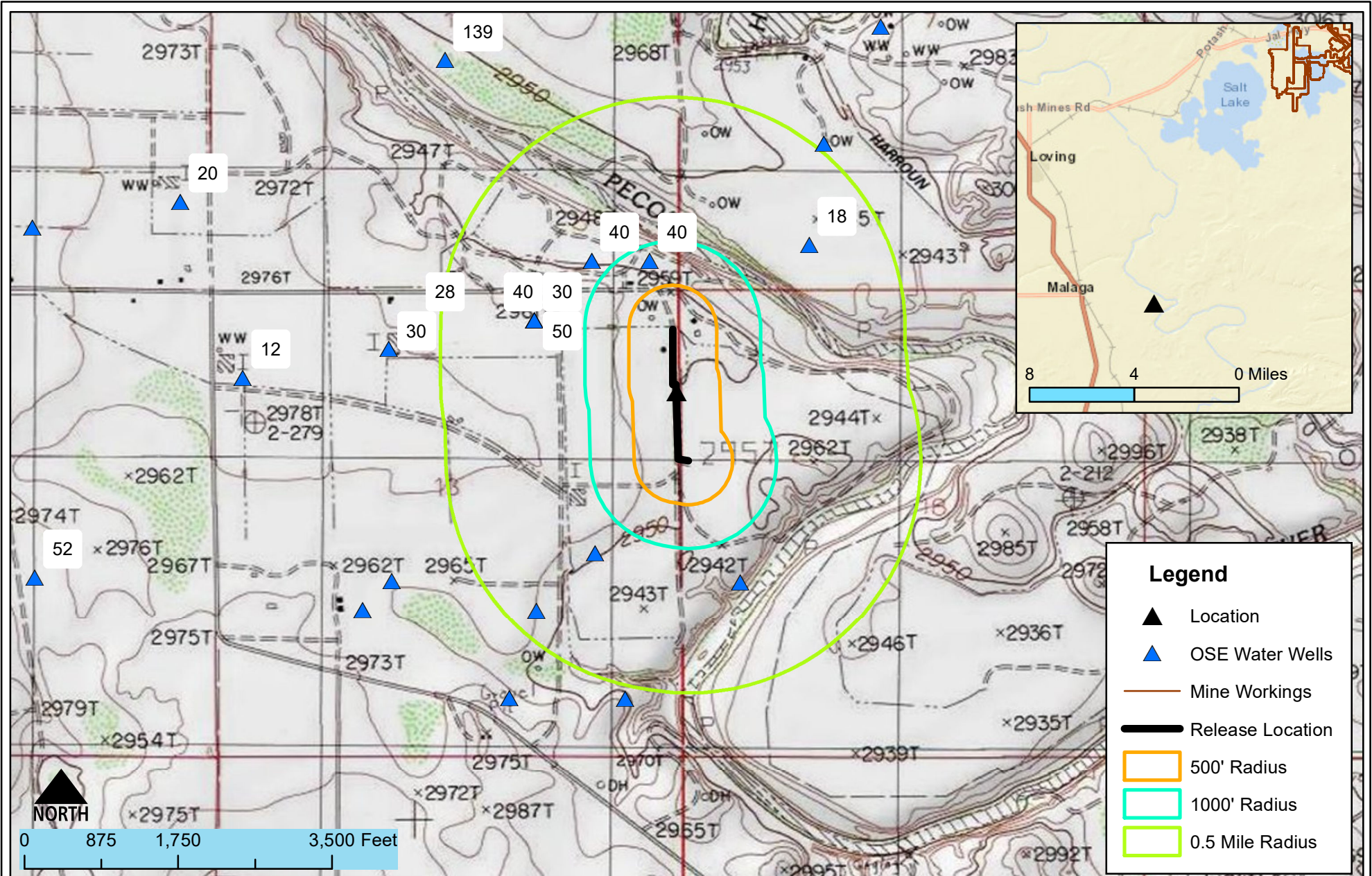
Appendix B: NMOSE Wells Report

Appendix C: NRCS Soil Map & Report

Appendix D: Laboratory Analytical Reports

# FIGURES





Site Vicinity & Wellhead Protection Map  
 Zach McCormick Federal Com #201H - Matador Resources  
 Sec. 18, T24S, R29E Eddy County, New Mexico

Figure 1

Date Saved:  
10/10/2018

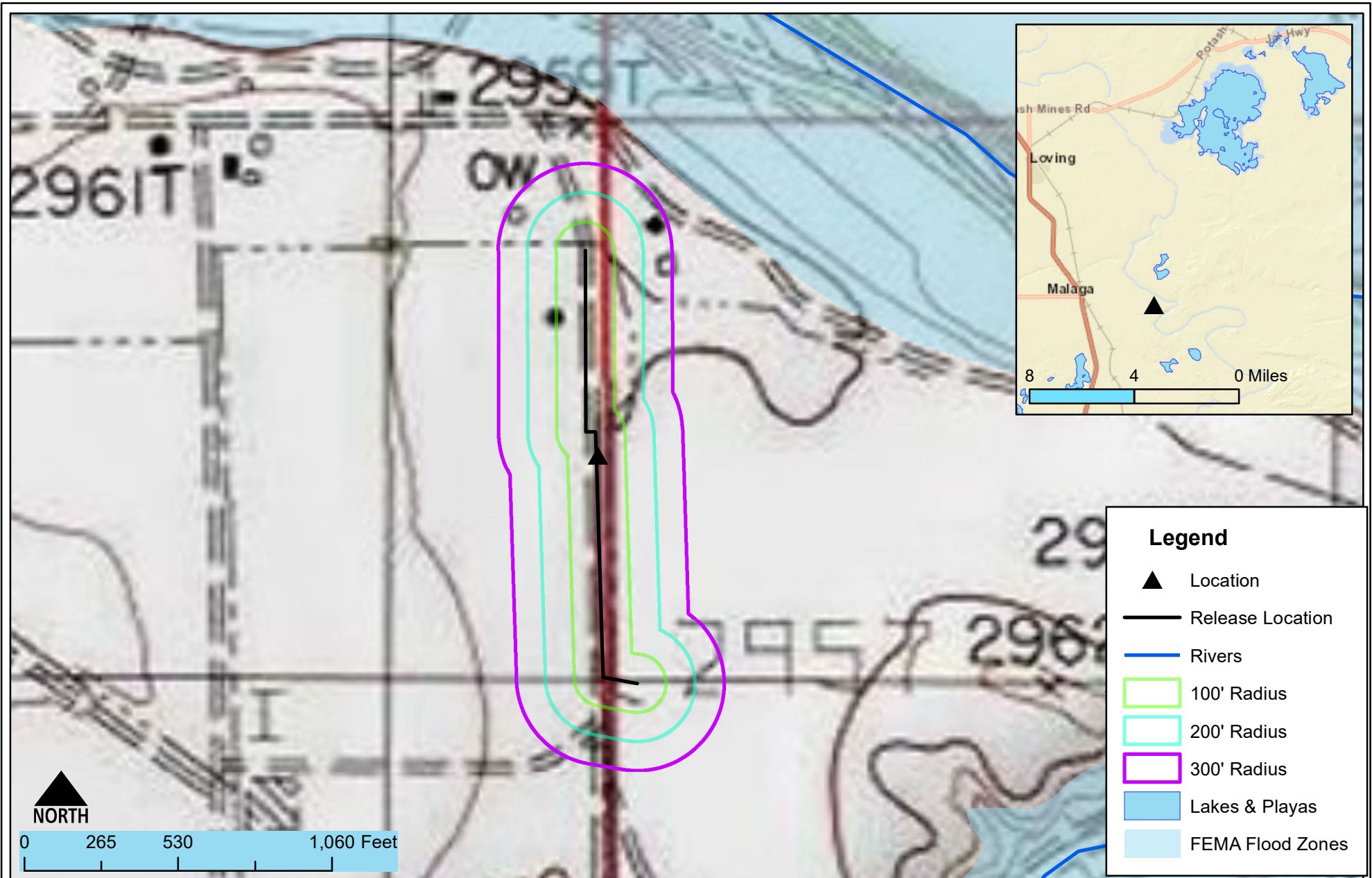
Revisions  
 By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr: \_\_\_\_\_  
 By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr: \_\_\_\_\_  
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Drawn Melodie Sanjari  
 Checked \_\_\_\_\_  
 Approved \_\_\_\_\_



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Surface Water Map  
 Zach McCormick Federal Com #201H - Matador Resources  
 Sec. 18, T24S, R29E Eddy County, New Mexico

Figure 2

Date Saved: 10/10/2018	By: _____	Date: _____	Revisions	Descr: _____	Drawn	Melodie Sanjari
	By: _____	Date: _____		Descr: _____	Checked	_____
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Site and Sample Location Map  
 Zach McCormick Federal Com #201H - Matador Resources  
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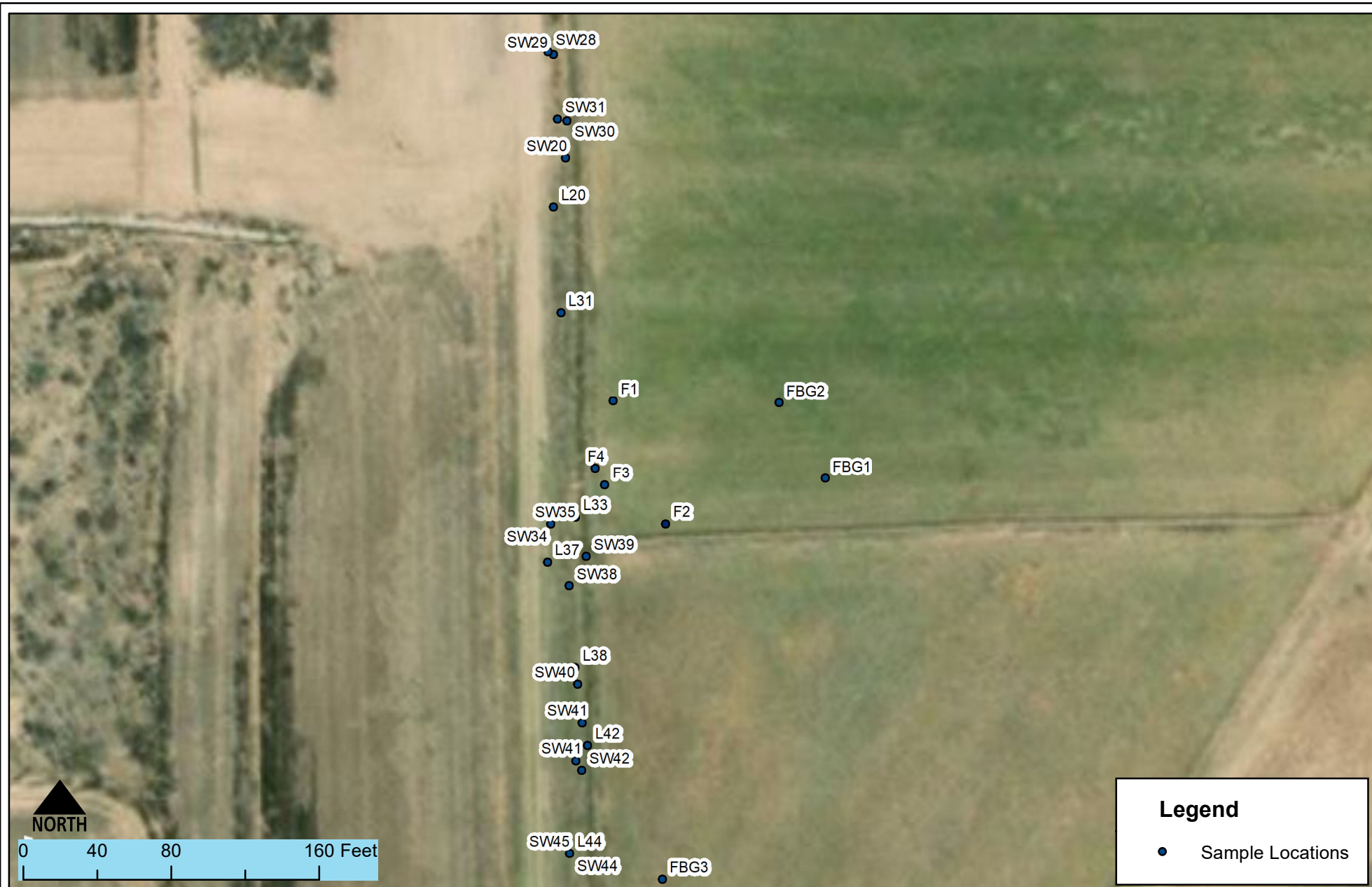
Figure 3A

Date Saved: 10/10/2018	By: _____	Date: _____	Revisions	Descr: _____	Drawn	Melodie Sanjari
	By: _____	Date: _____		Descr: _____	Checked	_____
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Site and Sample Location Map  
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Figure 3B

Date Saved: 10/10/2018	By: _____	Date: _____	Revisions	Descr: _____	Drawn	Melodie Sanjari
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Site and Sample Location Map  
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Figure 3C

Revisions  
 By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr: \_\_\_\_\_  
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# TABLES



Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	Approx. 42	OSE
Horizontal Distance From All Water Sources Within 1/2 Mile (ft)	7 Wells, Pecos River	OSE (Appendix B), USGS 7.5 Min. Quad
Horizontal Distance to Nearest Significant Watercourse (ft)	950	USGS 7.5 Min. Quad

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?	yes					
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					

Zack McCormick Sample Summary Table

Table 3

Sample Number on Figure 2	Sample Date	Depth (feet bgs)	Action Completed	BTEX	Benzene	GRO	DRO	MRO	Total TPH	Cl-	Cl-
				ppm	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	Field Screens (ppm)	Laboratory mg/Kg
NMOCOC Closure Criteria				50 mg/Kg	10 mg/Kg				100 mg/Kg		600 mg/Kg
F1	4/18/2017	0.5	in-situ	---	---	---	---	---	---	---	150
	4/18/2017	1	in-situ	---	---	---	---	---	---	551	150
	4/18/2017	2	in-situ	---	---	---	---	---	---	---	260
F3	4/18/2017	surface	in-situ	---	---	---	---	---	---	---	130
	4/18/2017	1	in-situ	---	---	---	---	---	---	---	150
F4	4/18/2017	0.5	in-situ	---	---	---	---	---	---	1,980	1300
	4/18/2017	1	in-situ	---	---	---	---	---	---	---	160
FBG1	4/18/2017	1	background	---	---	---	---	---	---	---	180
FBG2	4/18/2017	1	background	---	---	---	---	---	---	---	170
FBG3	4/18/2017	1	background	---	---	---	---	---	---	623	340
FBG4	4/18/2017	1	background	---	---	---	---	---	---	392	160
Irr North	4/18/2017	3	ditch background	---	---	---	---	---	---	---	880
Irr South	10/25/2018	3	ditch background	---	---	---	---	---	---	---	<30
SP1	4/18/2017	composite	disposed of	---	---	---	---	---	---	---	2700
SP2	4/18/2017	composite	disposed of	---	---	---	---	---	---	---	1100
SP3	4/18/2017	composite	disposed of	---	---	---	---	---	---	---	910
SP4	4/18/2017	composite	disposed of	---	---	---	---	---	---	---	1800
SP1	5/5/2018	composite	disposed of	---	---	---	---	---	---	---	5200
L5	4/17/2018	3.5	excavated	<0.92	<0.023	<4.6	<9.5	<48	<48	---	1400
	4/17/2018	4	excavated	---	---	---	---	---	---	---	830
	10/25/2018	4.5	in-situ	---	---	---	---	---	---	---	<30
L6	4/17/2018	4.5	excavated	---	---	---	---	---	---	---	980
	10/25/2018	4.75	in-situ	---	---	---	---	---	---	---	<30
L8	4/17/2018	3	excavated	---	---	---	---	---	---	3,741	3200
	5/5/2018	4	in-situ	---	---	---	---	---	---	---	610
L9	4/17/2018	3	excavated	<0.096	<0.024	<4.8	<8.7	<43	<43	1,590	1100
	10/25/2018	3.5	in-situ	---	---	---	---	---	---	---	<30
L20	4/17/2018	3	in-situ	<0.099	<0.025	<4.9	<8.7	<44	<44	248	90
L21	4/17/2018	3	excavated	---	---	---	---	---	---	---	3000
	5/5/2018	3.5	in-situ	---	---	---	---	---	---	---	260
L24	4/17/2018	3	in-situ	<0.092	<0.023	<4.6	<9.7	<49	<49	---	100
L28	4/17/2018	3	in-situ	<0.094	<0.024	<4.7	<9.4	<47	<47	637	630
L32	4/18/2017	3	excavated	<0.097	<0.024	<4.8	<9.7	<49	<49	839	1400
	4/18/2017	4	in-situ	---	---	---	---	---	---	---	580
L33	4/18/2017	3	excavated	---	---	---	---	---	---	854	660
	4/18/2017	4	in-situ	---	---	---	---	---	---	---	140
L37	4/18/2017	3	in-situ	<0.1	<0.025	<5.0	<9.3	<47	<47	551	450
L38	4/18/2017	3	in-situ	<0.099	<0.050	<5.0	<9.6	<48	<48	---	270
L41	4/18/2017	3	excavated	<0.094	<0.047	<4.7	<9.0	<45	<45	767	920
	10/25/2018	3.5	in-situ	---	---	---	---	---	---	---	<30
L44	4/18/2017	3	excavated	---	---	---	---	---	---	695	700
	10/25/2018	3.5	in-situ	---	---	---	---	---	---	---	<30
L46	4/18/2017	3	excavated	<0.098	<0.049	<4.9	<8.2	<41	<41	738	760
	10/25/2018	3.5	in-situ	---	---	---	---	---	---	---	<30
L48	4/18/2017	3	excavated	---	---	---	---	---	---	349	--
L50	4/18/2017	3	excavated	<0.098	<0.049	<4.9	<9.1	<45	<45	897	720
	10/25/2018	3.5	in-situ	---	---	---	---	---	---	---	<30
L52	4/18/2017	3	excavated	---	---	---	---	---	---	738	--
L54	4/18/2017	3	excavated	---	---	---	---	---	---	435	--
SW1	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	---	140
SW2	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	---	930
	10/25/2018		in-situ	---	---	---	---	---	---	<30	
SW3	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	363	230
SW4	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	---	100
SW20	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	320	110
SW21	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	464	120
SW22	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	---	230
SW23	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	926	920
	10/25/2018		in-situ	---	---	---	---	---	---	<30	
SW24	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	320	400
SW25	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	421	150
SW26	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	320	88
SW27	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	233	110
SW28	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	941	500
SW29	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	637	640
	10/25/2018		in-situ	---	---	---	---	---	---	<30	
SW30	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	---	510
SW31	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	580	310
SW32	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	493	510
SW33	4/17/2018	sidewall	in-situ	---	---	---	---	---	---	435	630
SW34	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	796	500
SW35	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	811	580
SW36	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	984	80
SW37	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	233	71
SW38	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	536	500
SW39	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	681	530
SW40	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	---	240
SW41	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	---	170
SW42	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	190	100
SW43	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	912	800
	10/25/2018		in-situ	---	---	---	---	---	---	<30	
SW44	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	897	820
	10/25/2018		in-situ	---	---	---	---	---	---	<30	
SW45	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	637	490
SW46	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	363	130
SW47	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	969	1100
	10/25/2018		in-situ	---	---	---	---	---	---	<30	
SW48	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	219	170
SW49	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	406	130
SW50	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	897	250
SW51	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	334	110
SW52	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	508	180
SW53	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	233	110
SW54	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	190	250
SW55	4/18/2017	sidewall	in-situ	---	---	---	---	---	---	262	200

**Zack McCormick Sample Summary Table Con't**

Sample Number on Figure 2	Sample Date	Depth (feet bgs)	CI-
			Laboratory mg/Kg
NMOCD RRAL's for Site Ranking 10			
Inlet	4/19/2017	--	660
Slug #1	4/19/2017	--	770
Slug #2	4/19/2017	--	730



# APPENDIX A

## FORM C141

MAY 11 2018

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

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

Form C-141  
Revised April 3, 2017

DISTRICT II-ARTESIA O.C.D.

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

## Release Notification and Corrective Action

NAB1813451123

## OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Matador Resources Company 228937	Contact Casey Snow
Address 5400 LBJ Freeway, Suite 1500 Dallas, TX 75240	Telephone No. (972) 371-5439
Facility Name ZACH MCCORMICK FEDERAL COM #201H	Facility Type Gas Well

Surface Owner Private	Mineral Owner Federal	API No. 30-015-44247
-----------------------	-----------------------	----------------------

## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	18	24S	34E 29E	742	North	351	West	Eddy

Latitude 32.223435° Longitude -104.032545° NAD83

## NATURE OF RELEASE

Type of Release Recycled Water	Volume of Release 239 bbls	Volume Recovered 120 bbls
Source of Release Equipment Failure	Date and Hour of Occurrence 5:00 am 4-17-18	Date and Hour of Discovery 6:00 am 4-17-18
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Crystal Weaver (NMOCD)	
By Whom? Lucas Middleton	Date and Hour 4-17-18 9:17 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*




Describe Cause of Problem and Remedial Action Taken.\*

A road crossing for a lay flat hose failed. Causing the fluids to run down the road. Then crossed over in to the irrigation ditch east of the road. All standing fluids were vacuummed up and sent for disposal. A berm was added to the east side of the road.

Describe Area Affected and Cleanup Action Taken.\*

SMA will delineate and submit a work plan for approval of remediation actions.

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

Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Casey Snow	Signed By:  Approved by Environmental Specialist:	
Title: Manager Regulatory, Environmental, & Safety	Approval Date: 5/14/18	Expiration Date: N/A
E-mail Address: csnow@matadorresources.com	Conditions of Approval: See Attached	
Date: _____ Phone: (972) 371-5439	Attached: 	

\* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 5/11/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4742 has been assigned. Please refer to this case number in all future correspondence.

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

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

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in ARTESIA on or before 6/11/2018. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.

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

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

- Nominal detection limits for field and laboratory analyses must be provided.

- Composite sampling is not generally allowed.

- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted



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

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

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

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

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

**Jim Griswold**

OCD Environmental Bureau Chief  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505  
505-476-3465  
jim.griswold@state.nm.us

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	OGRID: 228937
Contact Name: John Hurt	Contact Telephone: 972-371-5200
Contact email: Jhurt@matadorresources.com	Incident # (assigned by OCD) 2RP4742/nAB1813451123
Contact mailing address: 5400 LBJ Freeway, Suite 1500 Dallas, TX 75240	

### Location of Release Source

Latitude 32.223435Longitude -104.032545  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Zach McCormick Federal Com #201 H	Site Type: Gas Well
Date Release Discovered: 4/17/18	API# (if applicable) 30-015-44247

Unit Letter	Section	Township	Range	County
D	18	24S	29E	EDDY

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) 239	Volume Recovered (bbls) 120
	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 road crossing for a lay flat hose failed

Incident ID	Page 20 of 161
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? >25 bbls
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes. By SMA to NMOCD District II on 4/17/18 via email	

### 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 checked="" 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:	
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: John Hurt Title: RES Specialist	
Signature: 	Date: 1/18/18
email: <a href="mailto:Jhurt@matadorresources.com">Jhurt@matadorresources.com</a> Telephone: 972-371-5200	
<b>OCD Only</b>	
Received by: _____	Date: _____



Incident ID	NAB1813451123
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?	<u>42</u> (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 checked="" type="checkbox"/> Yes <input 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 <b>not</b> 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	NAB1813451123
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: 11/18/18

email: [Jhurt@matadorresources.com](mailto:Jhurt@matadorresources.com) Telephone: 972-371-5200

**OCD Only**

Received by: Jocelyn Harimon Date: 01/12/2023

Incident ID	NAB1813451123
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: 11/8/18

email: [Jhurt@matadorresources.com](mailto:Jhurt@matadorresources.com) Telephone: 972-371-5200

### OCD Only

Received by: Jocelyn Harimon

Date: 01/12/2023

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: Ashley Maxwell Date: 3/20/2023

Printed Name: Ashley Maxwell Title: Environmental Specialist

# APPENDIX B

## NMOSE WELLS REPORT





# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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
















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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code		Q Q Q							X	Y	Distance	Depth Well	Depth Water	Water Column	
	basin	County	64	16	4	Sec	Tws	Rng								
<a href="#">C 00983</a>	C	ED	4	4	4	12	24S	28E	591080	3565885*		284	92	40	52	
<a href="#">C 00618</a>	C	ED	3	4	4	12	24S	28E	590880	3565885*		391	80	40	40	
<a href="#">C 00329</a>	C	ED	2	1	2	13	24S	28E	590682	3565677*		483	95	30	65	
<a href="#">C 00684</a>	CUB	ED	2	1	2	13	24S	28E	590682	3565677*		483	95	40	55	
<a href="#">C 01154</a>	C	ED	2	1	2	13	24S	28E	590682	3565677*		483	95	50	45	
<a href="#">C 02713</a>	CUB	ED	4	4	1	16	24S	29E	591633	3565944		577	230	18	212	
<a href="#">C 00750</a>	CUB	ED	1	2	4	13	24S	28E	590898	3564871*		786	110			
<a href="#">C 00381</a>	C	CUB	ED	3	2	3	07	24S	29E	591682	3566297*		860	2797		
<a href="#">C 00349</a>	C	CUB	ED		1	3	18	24S	29E	591401	3564773*		873	2734		
<a href="#">C 00464</a>	CUB	ED	2	2	1	13	24S	28E	590277	3565674*		886	111	28	83	
<a href="#">C 00903</a>	C	ED		2	1	13	24S	28E	590178	3565575*		983	57	30	27	
<a href="#">C 01747</a>	CUB	ED				12	24S	28E	590367	3566577*		1249	176	139	37	
<a href="#">C 00354</a>	C	CUB	ED		4	4	13	24S	28E	591005	3564367*		1255	2739		
<a href="#">C 00353</a>	C	CUB	ED		3	4	13	24S	28E	590603	3564367*		1364	2726		
<a href="#">C 00738</a>	CUB	ED	3	1	1	13	24S	28E	589673	3565472*		1494	125	12	113	

Average Depth to Water: **42 feet**

Minimum Depth: **12 feet**

Maximum Depth: **139 feet**

Record Count: 15

UTMNAD83 Radius Search (in meters):

Easting (X): 591160.88

Northing (Y): 3565612.63

Radius: 1650

\*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.

7/12/18 2:15 PM

Page 1 of 1

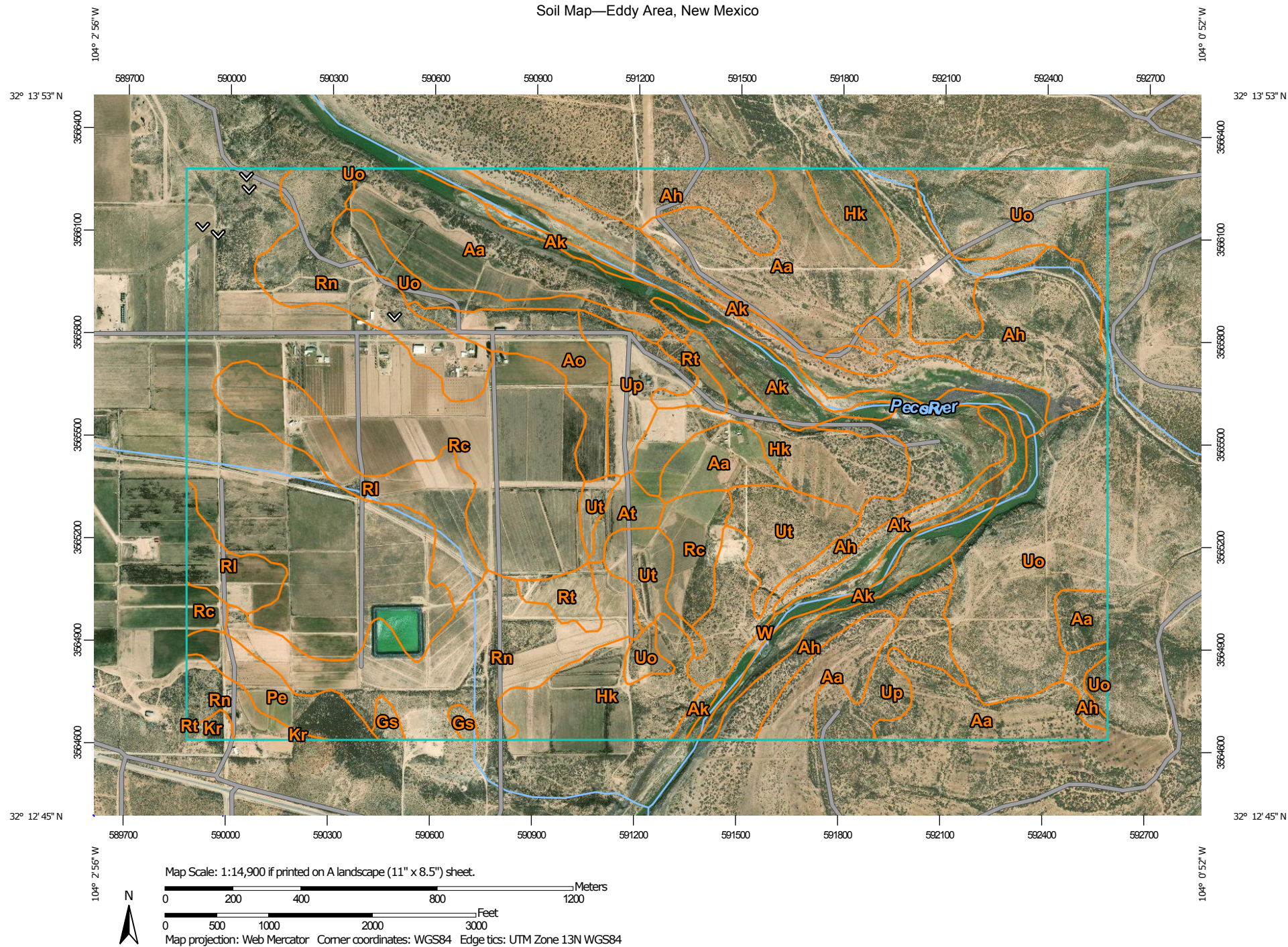
WATER COLUMN/ AVERAGE  
DEPTH TO WATER

# APPENDIX C

## NRCS SOIL MAP & REPORT



## Soil Map—Eddy Area, New Mexico



**Natural Resources**  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey


10/9/2018  
Page 1 of 3



## Soil Map—Eddy Area, New Mexico

## MAP LEGEND

## Area of Interest (AOI)

 Area of Interest (AOI)

## Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

## Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

## Water Features



Streams and Canals

## Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

## Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Eddy Area, New Mexico

Survey Area Data: Version 14, Sep 12, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Sep 17, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Soil Map—Eddy Area, New Mexico

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Aa	Anthony sandy loam, 0 to 1 percent slopes	174.0	15.5%
Ah	Anthony sandy loam, 0 to 1 percent slopes	125.8	11.2%
Ak	Arno-Harkey complex, saline, 0 to 1 percent slopes	78.4	7.0%
Ao	Atoka loam, 0 to 1 percent slopes	22.3	2.0%
At	Atoka loam, 1 to 3 percent slopes	6.3	0.6%
Gs	Gypsum land-Cottonwood complex, 0 to 3 percent slopes	3.5	0.3%
Hk	Harkey very fine sandy loam, 0 to 1 percent slopes	73.8	6.6%
Kr	Karro loam, 0 to 1 percent slopes	2.4	0.2%
Pe	Pima silt loam, 0 to 1 percent slopes	15.3	1.4%
Rc	Reagan loam, 0 to 1 percent slopes	230.6	20.5%
RI	Reeves loam, 0 to 1 percent slopes	45.7	4.1%
Rn	Reeves loam, 1 to 3 percent slopes	108.5	9.7%
Rt	Reeves loam, shallow, 0 to 1 percent slopes	12.2	1.1%
Uo	Upton gravelly loam, 0 to 9 percent slopes	122.3	10.9%
Up	Upton soils, 0 to 1 percent slopes	36.3	3.2%
Ut	Upton soils, 1 to 3 percent slopes	32.8	2.9%
W	Water	32.7	2.9%
<b>Totals for Area of Interest</b>		<b>1,122.9</b>	<b>100.0%</b>





Map Unit Description: Upton soils, 0 to 1 percent slopes---Eddy Area, New Mexico

---

## Eddy Area, New Mexico

### Up—Upton soils, 0 to 1 percent slopes

#### Map Unit Setting

*National map unit symbol:* 1w68

*Elevation:* 1,100 to 4,400 feet

*Mean annual precipitation:* 7 to 14 inches

*Mean annual air temperature:* 60 to 70 degrees F

*Frost-free period:* 200 to 240 days

*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Upton and similar soils:* 100 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Upton

##### Setting

*Landform:* Ridges, fans

*Landform position (three-dimensional):* Side slope, rise

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from limestone

##### Typical profile

*H1 - 0 to 8 inches:* gravelly loam

*H2 - 8 to 18 inches:* gravelly loam

*H3 - 18 to 40 inches:* cemented

*H4 - 40 to 60 inches:* very gravelly loam

##### Properties and qualities

*Slope:* 0 to 1 percent

*Depth to restrictive feature:* 7 to 20 inches to petrocalcic

*Natural drainage class:* Well drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Low to moderately high (0.01 to 0.60 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 75 percent

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum in profile:* 1.0

*Available water storage in profile:* Very low (about 1.9 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 4s

*Land capability classification (nonirrigated):* 7s

*Hydrologic Soil Group:* D

Map Unit Description: Upton soils, 0 to 1 percent slopes---Eddy Area, New Mexico

---

*Ecological site:* Shallow (R042XC025NM)  
*Hydric soil rating:* No

#### **Minor Components**

##### **Atoka**

*Percent of map unit:*  
*Ecological site:* Loamy (R042XC007NM)  
*Hydric soil rating:* No

##### **Upton**

*Percent of map unit:*  
*Ecological site:* Shallow (R042XC025NM)  
*Hydric soil rating:* No

## **Data Source Information**

Soil Survey Area: Eddy Area, New Mexico  
Survey Area Data: Version 14, Sep 12, 2018



# 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](http://www.hallenvironmental.com)

April 26, 2018

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

RE: Zach McCormilk Ditch

OrderNo.: 1804A39

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 28 sample(s) on 4/19/2018 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 1804A39

Date Reported: 4/26/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: L5-0.5

Project: Zach McCormilk Ditch

Collection Date: 4/17/2018 12:05:00 PM

Lab ID: 1804A39-001

Matrix: SOIL

Received Date: 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1400	75		mg/Kg	50	4/24/2018 5:44:25 PM	37749
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/25/2018 4:26:57 AM	37745
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/25/2018 4:26:57 AM	37745
Surr: DNOP	86.4	70-130		%Rec	1	4/25/2018 4:26:57 AM	37745
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/24/2018 12:50:50 PM	37744
Surr: BFB	89.6	15-316		%Rec	1	4/24/2018 12:50:50 PM	37744
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.092		mg/Kg	1	4/24/2018 12:50:50 PM	37744
Benzene	ND	0.023		mg/Kg	1	4/24/2018 12:50:50 PM	37744
Toluene	ND	0.046		mg/Kg	1	4/24/2018 12:50:50 PM	37744
Ethylbenzene	ND	0.046		mg/Kg	1	4/24/2018 12:50:50 PM	37744
Xylenes, Total	ND	0.092		mg/Kg	1	4/24/2018 12:50:50 PM	37744
Surr: 4-Bromofluorobenzene	98.1	80-120		%Rec	1	4/24/2018 12:50:50 PM	37744

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** L6-2.5**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 12:19:00 PM**Lab ID:** 1804A39-002**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	980	75		mg/Kg	50	4/24/2018 5:56:50 PM	37749

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** L8**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 12:40:00 PM**Lab ID:** 1804A39-003**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	3200	150		mg/Kg	100	4/24/2018 6:09:14 PM	37749

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

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

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## Analytical Report

Lab Order 1804A39

Date Reported: 4/26/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: L9

Project: Zach McCormick Ditch

Collection Date: 4/17/2018 12:55:00 PM

Lab ID: 1804A39-004

Matrix: SOIL

Received Date: 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1100	30		mg/Kg	20	4/23/2018 9:26:21 PM	37749
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	4/25/2018 4:50:20 AM	37745
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	4/25/2018 4:50:20 AM	37745
Surr: DNOP	90.3	70-130		%Rec	1	4/25/2018 4:50:20 AM	37745
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/24/2018 1:14:07 PM	37744
Surr: BFB	87.7	15-316		%Rec	1	4/24/2018 1:14:07 PM	37744
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.096		mg/Kg	1	4/24/2018 1:14:07 PM	37744
Benzene	ND	0.024		mg/Kg	1	4/24/2018 1:14:07 PM	37744
Toluene	ND	0.048		mg/Kg	1	4/24/2018 1:14:07 PM	37744
Ethylbenzene	ND	0.048		mg/Kg	1	4/24/2018 1:14:07 PM	37744
Xylenes, Total	ND	0.096		mg/Kg	1	4/24/2018 1:14:07 PM	37744
Surr: 4-Bromofluorobenzene	98.7	80-120		%Rec	1	4/24/2018 1:14:07 PM	37744

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

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

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## Analytical Report

Lab Order 1804A39

Date Reported: 4/26/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: L20-3

Project: Zach McCormick Ditch

Collection Date: 4/17/2018 1:15:00 PM

Lab ID: 1804A39-005

Matrix: SOIL

Received Date: 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	90	30		mg/Kg	20	4/23/2018 11:05:35 PM	37755
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	4/25/2018 5:13:48 AM	37745
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/25/2018 5:13:48 AM	37745
Surr: DNOP	88.3	70-130		%Rec	1	4/25/2018 5:13:48 AM	37745
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/24/2018 1:37:25 PM	37744
Surr: BFB	91.7	15-316		%Rec	1	4/24/2018 1:37:25 PM	37744
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	4/24/2018 1:37:25 PM	37744
Benzene	ND	0.025		mg/Kg	1	4/24/2018 1:37:25 PM	37744
Toluene	ND	0.049		mg/Kg	1	4/24/2018 1:37:25 PM	37744
Ethylbenzene	ND	0.049		mg/Kg	1	4/24/2018 1:37:25 PM	37744
Xylenes, Total	ND	0.099		mg/Kg	1	4/24/2018 1:37:25 PM	37744
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	4/24/2018 1:37:25 PM	37744

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** L21**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 1:45:00 PM**Lab ID:** 1804A39-006**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	3000	150		mg/Kg	100	4/24/2018 6:46:26 PM	37755

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

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

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## Analytical Report

Lab Order 1804A39

Date Reported: 4/26/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: L24

Project: Zach McCormick Ditch

Collection Date: 4/17/2018 2:00:00 PM

Lab ID: 1804A39-007

Matrix: SOIL

Received Date: 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	100	30		mg/Kg	20	4/23/2018 11:30:25 PM	37755
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/25/2018 5:37:09 AM	37745
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/25/2018 5:37:09 AM	37745
Surr: DNOP	91.3	70-130		%Rec	1	4/25/2018 5:37:09 AM	37745
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/24/2018 2:00:41 PM	37744
Surr: BFB	89.7	15-316		%Rec	1	4/24/2018 2:00:41 PM	37744
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.092		mg/Kg	1	4/24/2018 2:00:41 PM	37744
Benzene	ND	0.023		mg/Kg	1	4/24/2018 2:00:41 PM	37744
Toluene	ND	0.046		mg/Kg	1	4/24/2018 2:00:41 PM	37744
Ethylbenzene	ND	0.046		mg/Kg	1	4/24/2018 2:00:41 PM	37744
Xylenes, Total	ND	0.092		mg/Kg	1	4/24/2018 2:00:41 PM	37744
Surr: 4-Bromofluorobenzene	98.7	80-120		%Rec	1	4/24/2018 2:00:41 PM	37744

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

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

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## Analytical Report

Lab Order 1804A39

Date Reported: 4/26/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: L28

Project: Zach McCormick Ditch

Collection Date: 4/17/2018 3:00:00 PM

Lab ID: 1804A39-008

Matrix: SOIL

Received Date: 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	630	30		mg/Kg	20	4/23/2018 11:42:49 PM	37755
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/25/2018 6:00:30 AM	37745
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/25/2018 6:00:30 AM	37745
Surr: DNOP	92.1	70-130		%Rec	1	4/25/2018 6:00:30 AM	37745
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/24/2018 6:16:54 PM	37744
Surr: BFB	86.7	15-316		%Rec	1	4/24/2018 6:16:54 PM	37744
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.094		mg/Kg	1	4/24/2018 6:16:54 PM	37744
Benzene	ND	0.024		mg/Kg	1	4/24/2018 6:16:54 PM	37744
Toluene	ND	0.047		mg/Kg	1	4/24/2018 6:16:54 PM	37744
Ethylbenzene	ND	0.047		mg/Kg	1	4/24/2018 6:16:54 PM	37744
Xylenes, Total	ND	0.094		mg/Kg	1	4/24/2018 6:16:54 PM	37744
Surr: 4-Bromofluorobenzene	96.5	80-120		%Rec	1	4/24/2018 6:16:54 PM	37744

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

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

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## Analytical Report

Lab Order 1804A39

Date Reported: 4/26/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: L32

Project: Zach McCormick Ditch

Collection Date: 4/17/2018 3:30:00 PM

Lab ID: 1804A39-009

Matrix: SOIL

Received Date: 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	200	30		mg/Kg	20	4/23/2018 11:55:14 PM	37755
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	8.1		mg/Kg	1	4/25/2018 6:23:55 AM	37745
Motor Oil Range Organics (MRO)	ND	41		mg/Kg	1	4/25/2018 6:23:55 AM	37745
Surr: DNOP	91.3	70-130		%Rec	1	4/25/2018 6:23:55 AM	37745
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/24/2018 6:40:10 PM	37744
Surr: BFB	86.7	15-316		%Rec	1	4/24/2018 6:40:10 PM	37744
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.093		mg/Kg	1	4/24/2018 6:40:10 PM	37744
Benzene	ND	0.023		mg/Kg	1	4/24/2018 6:40:10 PM	37744
Toluene	ND	0.046		mg/Kg	1	4/24/2018 6:40:10 PM	37744
Ethylbenzene	ND	0.046		mg/Kg	1	4/24/2018 6:40:10 PM	37744
Xylenes, Total	ND	0.093		mg/Kg	1	4/24/2018 6:40:10 PM	37744
Surr: 4-Bromofluorobenzene	97.2	80-120		%Rec	1	4/24/2018 6:40:10 PM	37744

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW1**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 12:15:00 PM**Lab ID:** 1804A39-010**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	140	30		mg/Kg	20	4/24/2018 12:07:39 AM	37755

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW2**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 12:10:00 PM**Lab ID:** 1804A39-011**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	930	30		mg/Kg	20	4/24/2018 12:44:52 AM	37755

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW3**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 12:25:00 PM**Lab ID:** 1804A39-012**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	230	30		mg/Kg	20	4/24/2018 12:59:02 PM	37760

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW4**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 12:31:00 PM**Lab ID:** 1804A39-013**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	100	30		mg/Kg	20	4/24/2018 1:11:27 PM	37760

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** L5-SW**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 12:47:00 PM**Lab ID:** 1804A39-014**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	830	30		mg/Kg	20	4/24/2018 2:13:29 PM	37760

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW20**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 3:25:00 PM**Lab ID:** 1804A39-015**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	110	30		mg/Kg	20	4/24/2018 2:25:53 PM	37760

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW21**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 3:35:00 PM**Lab ID:** 1804A39-016**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	120	30		mg/Kg	20	4/24/2018 2:38:18 PM	37760

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW22**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 4:20:00 PM**Lab ID:** 1804A39-017**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	230	30		mg/Kg	20	4/24/2018 2:50:42 PM	37760

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW23**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 4:27:00 PM**Lab ID:** 1804A39-018**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	920	30		mg/Kg	20	4/24/2018 3:03:07 PM	37760

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW24**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 5:03:00 PM**Lab ID:** 1804A39-019**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	400		30	mg/Kg	20	4/24/2018 3:15:31 PM	37760

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW25**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 5:15:00 PM**Lab ID:** 1804A39-020**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	150	30		mg/Kg	20	4/24/2018 4:17:33 PM	37760

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW26**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 5:30:00 PM**Lab ID:** 1804A39-021**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	88	30		mg/Kg	20	4/24/2018 4:29:58 PM	37760

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW27**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 5:45:00 PM**Lab ID:** 1804A39-022**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	110	30		mg/Kg	20	4/24/2018 4:42:22 PM	37760

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW28**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 6:05:00 PM**Lab ID:** 1804A39-023**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	500	30		mg/Kg	20	4/24/2018 4:54:47 PM	37760

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW29**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 6:10:00 PM**Lab ID:** 1804A39-024**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	640	30		mg/Kg	20	4/24/2018 5:07:11 PM	37760

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW30**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 6:20:00 PM**Lab ID:** 1804A39-025**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	510	30		mg/Kg	20	4/24/2018 5:19:36 PM	37760

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW31**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 6:24:00 PM**Lab ID:** 1804A39-026**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	310	30		mg/Kg	20	4/25/2018 2:11:30 PM	37795

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW32**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 6:40:00 PM**Lab ID:** 1804A39-027**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	510	30		mg/Kg	20	4/25/2018 2:23:54 PM	37795

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

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

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## Analytical Report

Lab Order **1804A39**Date Reported: **4/26/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW33**Project:** Zach McCormilk Ditch**Collection Date:** 4/17/2018 6:47:00 PM**Lab ID:** 1804A39-028**Matrix:** SOIL**Received Date:** 4/19/2018 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	630	30		mg/Kg	20	4/25/2018 3:01:08 PM	37795

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

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

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

WO#: 1804A39

26-Apr-18

**Client:** Souder, Miller & Associates**Project:** Zach McCormilk Ditch

Sample ID	<b>MB-37749</b>	SampType:	<b>mblk</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>37749</b>	RunNo:	<b>50789</b>					
Prep Date:	<b>4/23/2018</b>	Analysis Date:	<b>4/23/2018</b>	SeqNo:	<b>1647406</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	<b>LCS-37749</b>	SampType:	<b>lcs</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>37749</b>	RunNo:	<b>50789</b>					
Prep Date:	<b>4/23/2018</b>	Analysis Date:	<b>4/23/2018</b>	SeqNo:	<b>1647407</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.4	90	110			

Sample ID	<b>MB-37755</b>	SampType:	<b>mblk</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>37755</b>	RunNo:	<b>50789</b>					
Prep Date:	<b>4/23/2018</b>	Analysis Date:	<b>4/23/2018</b>	SeqNo:	<b>1647442</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	<b>LCS-37755</b>	SampType:	<b>lcs</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>37755</b>	RunNo:	<b>50789</b>					
Prep Date:	<b>4/23/2018</b>	Analysis Date:	<b>4/23/2018</b>	SeqNo:	<b>1647443</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.1	90	110			

Sample ID	<b>MB-37760</b>	SampType:	<b>mblk</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>37760</b>	RunNo:	<b>50801</b>					
Prep Date:	<b>4/24/2018</b>	Analysis Date:	<b>4/24/2018</b>	SeqNo:	<b>1648668</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	<b>LCS-37760</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>37760</b>	RunNo:	<b>50801</b>					
Prep Date:	<b>4/24/2018</b>	Analysis Date:	<b>4/24/2018</b>	SeqNo:	<b>1648669</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.7	90	110			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical 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#: **1804A39****26-Apr-18****Client:** Souder, Miller & Associates**Project:** Zach McCormilk Ditch

Sample ID <b>MB-37795</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>37795</b>		RunNo: <b>50849</b>							
Prep Date: <b>4/25/2018</b>	Analysis Date: <b>4/25/2018</b>		SeqNo: <b>1650239</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID <b>LCS-37795</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>37795</b>		RunNo: <b>50849</b>							
Prep Date: <b>4/25/2018</b>	Analysis Date: <b>4/25/2018</b>		SeqNo: <b>1650240</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.5	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

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

WO#: 1804A39

26-Apr-18

**Client:** Souder, Miller & Associates**Project:** Zach McCormilk Ditch

Sample ID <b>LCS-37745</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>37745</b>			RunNo: <b>50794</b>						
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>			SeqNo: <b>1648086</b>	Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.2	70	130			
Surr: DNOP	4.1		5.000		82.3	70	130			

Sample ID <b>MB-37745</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>37745</b>			RunNo: <b>50794</b>						
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>			SeqNo: <b>1648087</b>	Units: <b>mg/Kg</b>					
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	9.0		10.00		89.6	70	130			

Sample ID <b>LCS-37773</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>37773</b>			RunNo: <b>50820</b>						
Prep Date: <b>4/24/2018</b>	Analysis Date: <b>4/25/2018</b>			SeqNo: <b>1649509</b>	Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.7		5.000		94.4	70	130			

Sample ID <b>MB-37773</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>37773</b>			RunNo: <b>50820</b>						
Prep Date: <b>4/24/2018</b>	Analysis Date: <b>4/25/2018</b>			SeqNo: <b>1649510</b>	Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.7		10.00		96.6	70	130			

Sample ID <b>LCS-37772</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>37772</b>			RunNo: <b>50794</b>						
Prep Date: <b>4/24/2018</b>	Analysis Date: <b>4/25/2018</b>			SeqNo: <b>1649793</b>	Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.1		5.000		82.1	70	130			

Sample ID <b>MB-37772</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>37772</b>			RunNo: <b>50794</b>						
Prep Date: <b>4/24/2018</b>	Analysis Date: <b>4/25/2018</b>			SeqNo: <b>1649794</b>	Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.4		10.00		93.7	70	130			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

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

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**WO#: **1804A39****26-Apr-18****Client:** Souder, Miller & Associates**Project:** Zach McCormilk Ditch

Sample ID <b>MB-37744</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>37744</b>		RunNo: <b>50797</b>							
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>		SeqNo: <b>1648227</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		87.8	15	316			

Sample ID <b>LCS-37744</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>37744</b>		RunNo: <b>50797</b>							
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>		SeqNo: <b>1648228</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	109	75.9	131			
Surr: BFB	980		1000		98.0	15	316			

**Qualifiers:**

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

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

WO#: 1804A39

26-Apr-18

**Client:** Souder, Miller & Associates**Project:** Zach McCormilk Ditch

Sample ID <b>MB-37744</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>37744</b>		RunNo: <b>50797</b>							
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>		SeqNo: <b>1648262</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.97		1.000		97.1	80	120			

Sample ID <b>LCS-37744</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>37744</b>		RunNo: <b>50797</b>							
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>		SeqNo: <b>1648263</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.94	0.10	1.000	0	94.2	70.1	121			
Benzene	0.99	0.025	1.000	0	98.8	77.3	128			
Toluene	1.0	0.050	1.000	0	102	79.2	125			
Ethylbenzene	1.0	0.050	1.000	0	102	80.7	127			
Xylenes, Total	3.2	0.10	3.000	0	106	81.6	129			
Surr: 4-Bromofluorobenzene	0.99		1.000		98.8	80	120			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

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

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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: 1804A39

RcptNo: 1

Received By: Eric Suina

4/19/2018 9:35:00 AM

Completed By: Isaiah Ortiz

4/19/2018 9:49:38 AM

Reviewed By:

DDS  
LB:ENM

4/19/18

E.L.S.

I.O.

### Chain of Custody

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

### Log In

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

# of preserved bottles checked for pH: 4/19/18  
( $<2$  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	4.7	Good	Yes			





## Chain-of-Custody Record

Client: SMTA CarsbadMailing Address: for file.

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard☐ Level 4 (Full Validation)

Accreditation

☐ NELAP☐ Other☐ EDD (Type)

Project Manager:

Austin WeyantSampler: low/lemOn Ice: ☒ Yes ☐ NoSample Temperature: 4.9-0.2(69)=4.7

Date

Time

Matrix

Sample Request ID

Container Type and #

Preservative Type

HEAL No.

1804439-013-014-015-016-017-018-019-020-021-022-023-024

Date:

Time:

Relinquished by:

Received by:

Date

Time

Date:

Time:

Relinquished by:

Received by:

Date

Time

Remarks:

Matador.2 of 3

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

## Chain-of-Custody Record

Client: SMTA CarsbadMailing Address: for file.

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard☐ Level 4 (Full Validation)

Accreditation

☐ NELAP☐ Other☐ EDD (Type)

Project Manager:

Austin WeyantSampler: low/lemOn Ice: ☒ Yes ☐ NoSample Temperature: 4.9-0.2(69)=4.7

Date

Time

Matrix

Sample Request ID

Container Type and #

Preservative Type

HEAL No.

1804439-013-014-015-016-017-018-019-020-021-022-023-024

Date:

Time:

Relinquished by:

Received by:

Date

Time

Date:

Time:

Relinquished by:

Received by:

Date

Time

Remarks:

Matador.2 of 3

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

## Chain-of-Custody Record

Client: SMTA CarsbadMailing Address: for file.

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard☐ Level 4 (Full Validation)

Accreditation

☐ NELAP☐ Other☐ EDD (Type)

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Date

Time

Matrix

Sample Request ID

Container Type and #

Preservative Type

HEAL No.

1804439-013-014-015-016-017-018-019-020-021-022-023-024

Date:

Time:

Relinquished by:

Received by:

Date

Time

Date:

Time:

Relinquished by:

Received by:

Date

Time

Remarks:

Matador.2 of 3

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





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

May 04, 2018

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

RE: Zack McCormick Ditch

OrderNo.: 1804A97

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 4 sample(s) on 4/21/2018 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 1804A97

Date Reported: 5/4/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: Inlet

Project: Zack McCormick Ditch

Collection Date: 4/19/2018 1:23:00 PM

Lab ID: 1804A97-001

Matrix: AQUEOUS

Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>SPECIFIC GRAVITY</b>							Analyst: JRR
Specific Gravity	1.002		0		1	4/30/2018 12:07:00 PM	R50916
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: MRA
Chloride	660	50	*	mg/L	100	4/27/2018 9:24:27 AM	R50912
Sulfate	1100	50	*	mg/L	100	4/27/2018 9:24:27 AM	R50912
<b>SM2320B: ALKALINITY</b>							Analyst: JRR
Bicarbonate (As CaCO <sub>3</sub> )	108.0	20.00		mg/L CaCO <sub>3</sub>	1	4/23/2018 4:44:05 PM	R50818
Carbonate (As CaCO <sub>3</sub> )	ND	2.000		mg/L CaCO <sub>3</sub>	1	4/23/2018 4:44:05 PM	R50818
Total Alkalinity (as CaCO <sub>3</sub> )	108.0	20.00		mg/L CaCO <sub>3</sub>	1	4/23/2018 4:44:05 PM	R50818
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: KS
Total Dissolved Solids	3290	40.0	*D	mg/L	1	4/24/2018 4:44:00 PM	37756
<b>SM4500-H+B / 9040C: PH</b>							Analyst: JRR
pH	8.12		H	pH units	1	4/23/2018 4:44:05 PM	R50818
<b>EPA METHOD 200.7: DISSOLVED METALS</b>							Analyst: pmf
Barium	0.048	0.0020		mg/L	1	4/26/2018 3:17:51 PM	B50835
Calcium	490	5.0		mg/L	5	4/26/2018 3:20:04 PM	B50835
Iron	ND	0.020		mg/L	1	4/26/2018 3:17:51 PM	B50835
Magnesium	110	5.0		mg/L	5	4/26/2018 3:20:04 PM	B50835
Manganese	0.0060	0.0020		mg/L	1	4/26/2018 3:17:51 PM	B50835
Potassium	5.6	1.0		mg/L	1	4/26/2018 3:17:51 PM	B50835
Sodium	470	5.0		mg/L	5	4/26/2018 3:20:04 PM	B50835
Strontium	6.1	0.50		mg/L	50	4/26/2018 8:02:33 PM	B50835

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 1804A97

Date Reported: 5/4/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: Slug #1

Project: Zack McCormick Ditch

Collection Date: 4/19/2018 12:05:00 PM

Lab ID: 1804A97-002

Matrix: AQUEOUS

Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>SPECIFIC GRAVITY</b>							Analyst: <b>JRR</b>
Specific Gravity	0.9998		0		1	4/30/2018 12:07:00 PM	R50916
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	770	50	*	mg/L	100	4/27/2018 9:50:09 AM	R50912
Sulfate	1100	50	*	mg/L	100	4/27/2018 9:50:09 AM	R50912
<b>SM2320B: ALKALINITY</b>							Analyst: <b>JRR</b>
Bicarbonate (As CaCO <sub>3</sub> )	107.7	20.00		mg/L CaCO <sub>3</sub>	1	4/23/2018 4:52:28 PM	R50818
Carbonate (As CaCO <sub>3</sub> )	ND	2.000		mg/L CaCO <sub>3</sub>	1	4/23/2018 4:52:28 PM	R50818
Total Alkalinity (as CaCO <sub>3</sub> )	107.7	20.00		mg/L CaCO <sub>3</sub>	1	4/23/2018 4:52:28 PM	R50818
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: <b>KS</b>
Total Dissolved Solids	3890	100	*D	mg/L	1	4/24/2018 4:44:00 PM	37756
<b>SM4500-H+B / 9040C: PH</b>							Analyst: <b>JRR</b>
pH	7.62		H	pH units	1	4/23/2018 4:52:28 PM	R50818
<b>EPA METHOD 200.7: DISSOLVED METALS</b>							Analyst: <b>pmf</b>
Barium	0.16	0.0020		mg/L	1	4/26/2018 3:22:21 PM	B50835
Calcium	480	10		mg/L	10	4/27/2018 12:52:59 PM	A50894
Iron	0.062	0.020		mg/L	1	4/26/2018 3:22:21 PM	B50835
Magnesium	110	5.0		mg/L	5	4/26/2018 3:24:35 PM	B50835
Manganese	0.029	0.0020		mg/L	1	4/26/2018 3:22:21 PM	B50835
Potassium	13	1.0		mg/L	1	4/26/2018 3:22:21 PM	B50835
Sodium	510	50		mg/L	50	4/26/2018 8:04:38 PM	B50835
Strontium	7.4	0.50		mg/L	50	4/26/2018 8:04:38 PM	B50835

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

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

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## Analytical Report

Lab Order 1804A97

Date Reported: 5/4/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: Slug #2

Project: Zack McCormick Ditch

Collection Date: 4/19/2018 12:52:00 PM

Lab ID: 1804A97-003

Matrix: AQUEOUS

Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>SPECIFIC GRAVITY</b>							Analyst: JRR
Specific Gravity	1.002		0		1	4/30/2018 12:07:00 PM	R50916
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: MRA
Chloride	730	50	*	mg/L	100	4/27/2018 10:15:53 AM	R50912
Sulfate	1200	50	*	mg/L	100	4/27/2018 10:15:53 AM	R50912
<b>SM2320B: ALKALINITY</b>							Analyst: JRR
Bicarbonate (As CaCO <sub>3</sub> )	107.5	20.00		mg/L CaCO <sub>3</sub>	1	4/23/2018 5:01:00 PM	R50818
Carbonate (As CaCO <sub>3</sub> )	ND	2.000		mg/L CaCO <sub>3</sub>	1	4/23/2018 5:01:00 PM	R50818
Total Alkalinity (as CaCO <sub>3</sub> )	107.5	20.00		mg/L CaCO <sub>3</sub>	1	4/23/2018 5:01:00 PM	R50818
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: KS
Total Dissolved Solids	3460	100	*D	mg/L	1	4/24/2018 4:44:00 PM	37756
<b>SM4500-H+B / 9040C: PH</b>							Analyst: JRR
pH	7.99		H	pH units	1	4/23/2018 5:01:00 PM	R50818
<b>EPA METHOD 200.7: DISSOLVED METALS</b>							Analyst: pmf
Barium	0.088	0.0020		mg/L	1	4/26/2018 3:26:50 PM	B50835
Calcium	490	5.0		mg/L	5	4/26/2018 3:29:02 PM	B50835
Iron	ND	0.020		mg/L	1	4/26/2018 3:26:50 PM	B50835
Magnesium	110	5.0		mg/L	5	4/26/2018 3:29:02 PM	B50835
Manganese	0.0053	0.0020		mg/L	1	4/26/2018 3:26:50 PM	B50835
Potassium	7.6	1.0		mg/L	1	4/26/2018 3:26:50 PM	B50835
Sodium	480	5.0		mg/L	5	4/26/2018 3:29:02 PM	B50835
Strontium	6.4	0.50		mg/L	50	4/26/2018 8:06:45 PM	B50835
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: AG
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/25/2018 7:11:58 PM	W50821
Surr: BFB	104	70-130		%Rec	1	4/25/2018 7:11:58 PM	W50821
<b>EPA METHOD 8015M/D: DIESEL RANGE</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/24/2018 8:56:54 PM	37747
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/24/2018 8:56:54 PM	37747
Surr: DNOP	105	77.5-161		%Rec	1	4/24/2018 8:56:54 PM	37747
<b>EPA METHOD 8260: VOLATILES SHORT LIST</b>							Analyst: AG
Benzene	ND	1.0		µg/L	1	4/25/2018 7:11:58 PM	A50821
Toluene	ND	1.0		µg/L	1	4/25/2018 7:11:58 PM	A50821
Ethylbenzene	ND	1.0		µg/L	1	4/25/2018 7:11:58 PM	A50821
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2018 7:11:58 PM	A50821
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2018 7:11:58 PM	A50821
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2018 7:11:58 PM	A50821

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

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

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## Analytical Report

Lab Order **1804A97**Date Reported: **5/4/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** Slug #2**Project:** Zack McCormick Ditch**Collection Date:** 4/19/2018 12:52:00 PM**Lab ID:** 1804A97-003**Matrix:** AQUEOUS**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260: VOLATILES SHORT LIST</b>							Analyst: <b>AG</b>
Xylenes, Total	ND	1.5		µg/L	1	4/25/2018 7:11:58 PM	A50821
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	4/25/2018 7:11:58 PM	A50821
Surr: Toluene-d8	101	70-130		%Rec	1	4/25/2018 7:11:58 PM	A50821

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

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

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## Analytical Report

Lab Order 1804A97

Date Reported: 5/4/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: Tiger Facility

Project: Zack McCormick Ditch

Collection Date: 4/16/2018 12:00:00 PM

Lab ID: 1804A97-004

Matrix: AQUEOUS

Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>SPECIFIC GRAVITY</b>							Analyst: JRR
Specific Gravity	1.077		0		1	4/30/2018 12:07:00 PM	R50916
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: MRA
Chloride	92000	5000	*	mg/L	1E	4/30/2018 2:14:55 PM	R50920
Sulfate	300	50	*	mg/L	100	4/27/2018 10:41:36 AM	R50912
<b>SM2320B: ALKALINITY</b>							Analyst: JRR
Bicarbonate (As CaCO <sub>3</sub> )	162.5	20.00		mg/L CaCO <sub>3</sub>	1	4/23/2018 5:09:29 PM	R50818
Carbonate (As CaCO <sub>3</sub> )	ND	2.000		mg/L CaCO <sub>3</sub>	1	4/23/2018 5:09:29 PM	R50818
Total Alkalinity (as CaCO <sub>3</sub> )	162.5	20.00		mg/L CaCO <sub>3</sub>	1	4/23/2018 5:09:29 PM	R50818
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>							Analyst: KS
Total Dissolved Solids	125000	2000	*D	mg/L	1	4/24/2018 4:44:00 PM	37756
<b>SM4500-H+B / 9040C: PH</b>							Analyst: JRR
pH	6.94		H	pH units	1	4/23/2018 5:09:29 PM	R50818
<b>EPA METHOD 200.7: DISSOLVED METALS</b>							Analyst: pmf
Barium	4.1	0.010	*	mg/L	5	4/26/2018 3:45:43 PM	B50835
Calcium	4900	50		mg/L	50	4/27/2018 12:55:18 PM	A50894
Iron	0.16	0.10		mg/L	5	4/26/2018 3:45:43 PM	B50835
Magnesium	710	50		mg/L	50	4/27/2018 12:55:18 PM	A50894
Manganese	0.93	0.010	*	mg/L	5	4/26/2018 3:45:43 PM	B50835
Potassium	640	50		mg/L	50	4/26/2018 8:08:51 PM	B50835
Sodium	34000	1000		mg/L	1E	4/26/2018 8:13:11 PM	B50835
Strontium	960	50		mg/L	5E	4/27/2018 12:57:37 PM	A50894

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#: 1804A97

04-May-18

**Client:** Souder, Miller & Associates**Project:** Zack McCormick Ditch

Sample ID <b>MB-B</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 200.7: Dissolved Metals</b>								
Client ID: <b>PBW</b>	Batch ID: <b>B50835</b>	RunNo: <b>50835</b>								
Prep Date:	Analysis Date: <b>4/26/2018</b>	SeqNo: <b>1651084</b>	Units: <b>mg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	ND	0.0020								
Calcium	ND	1.0								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Sodium	ND	1.0								
Strontium	ND	0.010								

Sample ID <b>LLCS-B</b>	SampType: <b>LCSLL</b>	TestCode: <b>EPA Method 200.7: Dissolved Metals</b>								
Client ID: <b>BatchQC</b>	Batch ID: <b>B50835</b>	RunNo: <b>50835</b>								
Prep Date:	Analysis Date: <b>4/26/2018</b>	SeqNo: <b>1651108</b>	Units: <b>mg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	0.0021	0.0020	0.002000	0	105	50	150			
Calcium	ND	1.0	0.5000	0	116	50	150			
Iron	0.021	0.020	0.02000	0	107	50	150			
Magnesium	ND	1.0	0.5000	0	110	50	150			
Manganese	0.0023	0.0020	0.002000	0	113	50	150			
Potassium	ND	1.0	0.5000	0	109	50	150			
Sodium	ND	1.0	0.5000	0	143	50	150			
Strontium	ND	0.010	0.005000	0	106	50	150			

Sample ID <b>LCS-B</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 200.7: Dissolved Metals</b>								
Client ID: <b>LCSW</b>	Batch ID: <b>B50835</b>	RunNo: <b>50835</b>								
Prep Date:	Analysis Date: <b>4/26/2018</b>	SeqNo: <b>1651110</b>	Units: <b>mg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	0.52	0.0020	0.5000	0	104	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Iron	0.53	0.020	0.5000	0	106	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.54	0.0020	0.5000	0	107	85	115			
Potassium	49	1.0	50.00	0	98.4	85	115			
Sodium	49	1.0	50.00	0	98.5	85	115			
Strontium	0.10	0.010	0.1000	0	104	85	115			

**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#: 1804A97

04-May-18

**Client:** Souder, Miller & Associates**Project:** Zack McCormick Ditch

Sample ID <b>MB-A</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 200.7: Dissolved Metals</b>							
Client ID: <b>PBW</b>	Batch ID: <b>A50894</b>		RunNo: <b>50894</b>							
Prep Date:	Analysis Date: <b>4/27/2018</b>		SeqNo: <b>1652566</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Strontium	ND	0.010								

Sample ID <b>LLCS-A</b>	SampType: <b>LCSLL</b>		TestCode: <b>EPA Method 200.7: Dissolved Metals</b>							
Client ID: <b>BatchQC</b>	Batch ID: <b>A50894</b>		RunNo: <b>50894</b>							
Prep Date:	Analysis Date: <b>4/27/2018</b>		SeqNo: <b>1652567</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0	0.5000	0	98.2	50	150			
Magnesium	ND	1.0	0.5000	0	97.3	50	150			
Strontium	ND	0.010	0.005000	0	102	50	150			

Sample ID <b>LCS-A</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 200.7: Dissolved Metals</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>A50894</b>		RunNo: <b>50894</b>							
Prep Date:	Analysis Date: <b>4/27/2018</b>		SeqNo: <b>1652568</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	49	1.0	50.00	0	98.5	85	115			
Magnesium	50	1.0	50.00	0	100	85	115			
Strontium	0.11	0.010	0.1000	0	108	85	115			

**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#: **1804A97****04-May-18****Client:** Souder, Miller & Associates**Project:** Zack McCormick Ditch

Sample ID <b>MB</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R50912</b>		RunNo: <b>50912</b>							
Prep Date:	Analysis Date: <b>4/27/2018</b>		SeqNo: <b>1652832</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID <b>LCS</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R50912</b>		RunNo: <b>50912</b>							
Prep Date:	Analysis Date: <b>4/27/2018</b>		SeqNo: <b>1652833</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.5	90	110			
Sulfate	9.2	0.50	10.00	0	92.0	90	110			

Sample ID <b>MB</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBW</b>	Batch ID: <b>R50920</b>		RunNo: <b>50920</b>							
Prep Date:	Analysis Date: <b>4/30/2018</b>		SeqNo: <b>1654028</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID <b>LCS</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R50920</b>		RunNo: <b>50920</b>							
Prep Date:	Analysis Date: <b>4/30/2018</b>		SeqNo: <b>1654029</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	96.5	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#: 1804A97  
04-May-18

Client: Souder, Miller & Associates  
Project: Zack McCormick Ditch

Sample ID	LCS-37747	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range					
Client ID:	LCSW	Batch ID:	37747	RunNo:	50794					
Prep Date:	4/23/2018	Analysis Date:	4/24/2018	SeqNo:	1648309	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	115	70	130			
Surr: DNOP	0.52		0.5000		104	77.5	161			

Sample ID	MB-37747	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range					
Client ID:	PBW	Batch ID:	37747	RunNo:	50794					
Prep Date:	4/23/2018	Analysis Date:	4/24/2018	SeqNo:	1648310	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.0		1.000		104	77.5	161			

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#: **1804A97****04-May-18****Client:** Souder, Miller & Associates**Project:** Zack McCormick Ditch

Sample ID <b>100ng lcs</b>	SampType: <b>LCS4</b>			TestCode: <b>EPA Method 8260: Volatiles Short List</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>A50821</b>			RunNo: <b>50821</b>						
Prep Date:	Analysis Date: <b>4/25/2018</b>			SeqNo: <b>1649367</b>		Units: <b>µg/L</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	80	120			
Toluene	21	1.0	20.00	0	103	80	120			
Ethylbenzene	21	1.0	20.00	0	105	80	120			
Methyl tert-butyl ether (MTBE)	18	1.0	20.00	0	87.9	80	120			
1,2,4-Trimethylbenzene	21	1.0	20.00	0	104	80	120			
1,3,5-Trimethylbenzene	20	1.0	20.00	0	101	80	120			
Xylenes, Total	61	1.5	60.00	0	102	80	120			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.7	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID <b>rb</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8260: Volatiles Short List</b>						
Client ID: <b>PBW</b>	Batch ID: <b>A50821</b>			RunNo: <b>50821</b>						
Prep Date:	Analysis Date: <b>4/25/2018</b>			SeqNo: <b>1649369</b>		Units: <b>µg/L</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 4-Bromofluorobenzene	12		10.00		119	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

**Qualifiers:**

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



QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1804A97

04-May-18

Client: Souder, Miller & Associates

Project: Zack McCormick Ditch

Sample ID	2.5ug gro lcs	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSW	Batch ID:	W50821	RunNo:	50821					
Prep Date:		Analysis Date:	4/25/2018	SeqNo:	1649844	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	101	70	130			
Surr: BFB	9.8		10.00		98.4	70	130			

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBW	Batch ID:	W50821	RunNo:	50821					
Prep Date:		Analysis Date:	4/25/2018	SeqNo:	1649845	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	11		10.00		109	70	130			

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1804A97  
04-May-18

Client: Souder, Miller & Associates  
Project: Zack McCormick Ditch

Sample ID	mb-1 alk	SampType:	MBLK	TestCode:	SM2320B: Alkalinity					
Client ID:	PBW	Batch ID:	R50818	RunNo:	50818					
Prep Date:		Analysis Date:	4/23/2018	SeqNo:	1648595	Units:	mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	lcs-1 alk	SampType:	LCS	TestCode:	SM2320B: Alkalinity					
Client ID:	LCSW	Batch ID:	R50818	RunNo:	50818					
Prep Date:		Analysis Date:	4/23/2018	SeqNo:	1648596	Units:	mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.08	20.00	80.00	0	98.8	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 12 of 13
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#: **1804A97****04-May-18****Client:** Souder, Miller & Associates**Project:** Zack McCormick Ditch

Sample ID <b>MB-37756</b>	SampType: <b>MBLK</b>		TestCode: <b>SM2540C MOD: Total Dissolved Solids</b>							
Client ID: <b>PBW</b>	Batch ID: <b>37756</b>		RunNo: <b>50813</b>							
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>		SeqNo: <b>1648131</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID <b>LCS-37756</b>	SampType: <b>LCS</b>		TestCode: <b>SM2540C MOD: Total Dissolved Solids</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>37756</b>		RunNo: <b>50813</b>							
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>		SeqNo: <b>1648132</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1000	20.0	1000	0	100	80	120			

Sample ID <b>1804A97-003AMS</b>	SampType: <b>MS</b>		TestCode: <b>SM2540C MOD: Total Dissolved Solids</b>							
Client ID: <b>Slug #2</b>	Batch ID: <b>37756</b>		RunNo: <b>50813</b>							
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>		SeqNo: <b>1648136</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	8460	100	5000	3460	100	80	120			D

Sample ID <b>1804A97-003AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>SM2540C MOD: Total Dissolved Solids</b>							
Client ID: <b>Slug #2</b>	Batch ID: <b>37756</b>		RunNo: <b>50813</b>							
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>		SeqNo: <b>1648137</b>		Units: <b>mg/L</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	8520	100	5000	3460	101	80	120	0.707	5	D

**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

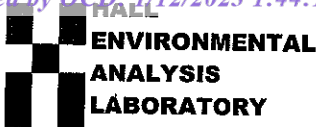
J Analyte detected below quantitation limits

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 87109  
TEL: 505-345-3973 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1804A97

RcptNo: 1

Received By: Isaiah Ortiz 4/21/2018 9:40:00 AM

Completed By: Ashley Gallegos 4/23/2018 8:37:36 AM

Reviewed By: ENM 4/23/18

LB: ENM

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☐ No ☒
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☐ No ☒
8. Was preservative added to bottles? Yes ☒ No ☐ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ HNO<sub>3</sub> 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: 4

Adjusted? Yes (or >12 unless noted)

Checked by: ENM

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:			

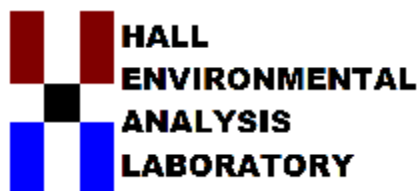
16. Additional remarks:

For dissolved metals analysis poured off and filtered from provided 500mL unpreserved HDP into 125mL HPD. For acceptable pH for metals analysis added 0.5mL HNO<sub>3</sub> to all metals bottles (-001 through -004). Samples held for 24 hrs prior to analysis. - ENM 04/23/2018 @10.05

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Yes			





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

May 03, 2018

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

RE: Zack McCormick Ditch

OrderNo.: 1804B37

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 51 sample(s) on 4/21/2018 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 1805573

Date Reported: 5/21/2018

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SP1**Project:** Zach Mc**Collection Date:** 5/5/2018**Lab ID:** 1805573-001**Matrix:** SOIL**Received Date:** 5/9/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>smb</b>
Chloride	5200	300		mg/Kg	200	5/16/2018 12:17:20 PM	38135

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** Irrigation North**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 8:05:00 AM**Lab ID:** 1804B37-001**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	880	30		mg/Kg	20	4/25/2018 5:42:25 PM	37795

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SP1**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 9:00:00 AM**Lab ID:** 1804B37-002**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	2700	75		mg/Kg	50	4/29/2018 9:28:14 AM	37795

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SP2**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 9:15:00 AM**Lab ID:** 1804B37-003**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1100		30	mg/Kg	20	4/25/2018 6:32:03 PM	37795

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SP3**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 9:10:00 AM**Lab ID:** 1804B37-004**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	910	30		mg/Kg	20	4/25/2018 6:44:28 PM	37795

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SP4**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 9:22:00 AM**Lab ID:** 1804B37-005**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1800		75	mg/Kg	50	4/29/2018 9:40:38 AM	37795

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

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

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## Analytical Report

Lab Order 1804B37

Date Reported: 5/3/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: L32

Project: Zack McCormick Ditch

Collection Date: 4/18/2018 9:07:00 AM

Lab ID: 1804B37-006

Matrix: SOIL

Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1400	75		mg/Kg	50	4/29/2018 9:53:03 AM	37795
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/25/2018 12:07:20 AM	37745
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/25/2018 12:07:20 AM	37745
Surr: DNOP	97.4	70-130		%Rec	1	4/25/2018 12:07:20 AM	37745
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/24/2018 7:03:28 PM	37744
Surr: BFB	89.5	15-316		%Rec	1	4/24/2018 7:03:28 PM	37744
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.097		mg/Kg	1	4/24/2018 7:03:28 PM	37744
Benzene	ND	0.024		mg/Kg	1	4/24/2018 7:03:28 PM	37744
Toluene	ND	0.048		mg/Kg	1	4/24/2018 7:03:28 PM	37744
Ethylbenzene	ND	0.048		mg/Kg	1	4/24/2018 7:03:28 PM	37744
Xylenes, Total	ND	0.097		mg/Kg	1	4/24/2018 7:03:28 PM	37744
Surr: 4-Bromofluorobenzene	98.7	80-120		%Rec	1	4/24/2018 7:03:28 PM	37744

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** L33**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 9:25:00 AM**Lab ID:** 1804B37-007**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	140	30		mg/Kg	20	4/26/2018 12:28:07 PM	37818

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

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

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## Analytical Report

Lab Order 1804B37

Date Reported: 5/3/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: L37

Project: Zack McCormick Ditch

Collection Date: 4/18/2018 9:45:00 AM

Lab ID: 1804B37-008

Matrix: SOIL

Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	450	30		mg/Kg	20	4/26/2018 12:40:31 PM	37818
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/25/2018 10:10:20 AM	37745
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/25/2018 10:10:20 AM	37745
Surr: DNOP	107	70-130		%Rec	1	4/25/2018 10:10:20 AM	37745
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/24/2018 7:26:43 PM	37744
Surr: BFB	91.2	15-316		%Rec	1	4/24/2018 7:26:43 PM	37744
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	4/24/2018 7:26:43 PM	37744
Benzene	ND	0.025		mg/Kg	1	4/24/2018 7:26:43 PM	37744
Toluene	ND	0.050		mg/Kg	1	4/24/2018 7:26:43 PM	37744
Ethylbenzene	ND	0.050		mg/Kg	1	4/24/2018 7:26:43 PM	37744
Xylenes, Total	ND	0.10		mg/Kg	1	4/24/2018 7:26:43 PM	37744
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	4/24/2018 7:26:43 PM	37744

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

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

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## Analytical Report

Lab Order 1804B37

Date Reported: 5/3/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: SW54

Project: Zack McCormick Ditch

Collection Date: 4/18/2018 3:30:00 PM

Lab ID: 1804B37-009

Matrix: SOIL

Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	250	30		mg/Kg	20	4/26/2018 12:52:56 PM	37818

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 **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW33**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 10:00:00 AM**Lab ID:** 1804B37-010**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	660		30	mg/Kg	20	4/26/2018 1:30:08 PM	37818

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW37**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 10:15:00 AM**Lab ID:** 1804B37-011**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	71	30		mg/Kg	20	4/26/2018 1:42:33 PM	37818

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW35**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 10:12:00 AM**Lab ID:** 1804B37-012**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	580		30	mg/Kg	20	4/26/2018 2:19:46 PM	37818

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW38**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 10:30:00 AM**Lab ID:** 1804B37-013**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	500	30		mg/Kg	20	4/26/2018 2:32:10 PM	37818

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW39**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 10:37:00 AM**Lab ID:** 1804B37-014**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	530	30		mg/Kg	20	4/26/2018 2:44:34 PM	37818

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW32**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 10:07:00 AM**Lab ID:** 1804B37-015**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	580		30	mg/Kg	20	4/26/2018 2:56:59 PM	37818

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW36**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 10:17:00 AM**Lab ID:** 1804B37-016**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	80	30		mg/Kg	20	4/26/2018 3:09:24 PM	37818

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW34**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 9:57:00 AM**Lab ID:** 1804B37-017**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	500	30		mg/Kg	20	4/26/2018 3:21:49 PM	37818

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** F4-1**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 11:13:00 AM**Lab ID:** 1804B37-018**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	160	30		mg/Kg	20	4/26/2018 3:34:13 PM	37818

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** F4-0.5**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 11:00:00 AM**Lab ID:** 1804B37-019**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1300		75	mg/Kg	50	4/29/2018 10:05:28 AM	37818

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** F3-1**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 11:20:00 AM**Lab ID:** 1804B37-020**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	190	30		mg/Kg	20	4/26/2018 3:59:03 PM	37818

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** F3 Surface**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 11:15:00 AM**Lab ID:** 1804B37-021**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	130	30		mg/Kg	20	4/26/2018 4:11:28 PM	37818

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** F1-0.5**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 11:30:00 AM**Lab ID:** 1804B37-022**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	150	30		mg/Kg	20	4/26/2018 4:48:42 PM	37818

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** F1-1**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 11:35:00 AM**Lab ID:** 1804B37-023**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	150	30		mg/Kg	20	4/26/2018 5:25:55 PM	37818

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** F1-2**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 11:40:00 AM**Lab ID:** 1804B37-024**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	260	30		mg/Kg	20	4/26/2018 5:38:20 PM	37818

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** FBG1**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 9:15:00 AM**Lab ID:** 1804B37-025**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	180	30		mg/Kg	20	4/26/2018 5:50:44 PM	37818

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** FBG2**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 11:20:00 AM**Lab ID:** 1804B37-026**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	170	30		mg/Kg	20	4/27/2018 8:58:14 AM	37829

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** FBG3**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 1:45:00 PM**Lab ID:** 1804B37-027**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	340	30		mg/Kg	20	4/27/2018 9:35:27 AM	37829

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** FBG4**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 4:04:00 PM**Lab ID:** 1804B37-028**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	160	30		mg/Kg	20	4/27/2018 9:47:52 AM	37829

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW46**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 12:07:00 PM**Lab ID:** 1804B37-029**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	130	30		mg/Kg	20	4/27/2018 10:00:17 AM	37829

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

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

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Analytical Report

Lab Order 1804B37

Date Reported: 5/3/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: SW47

Project: Zack McCormick Ditch

Collection Date: 4/18/2018 12:11:00 PM

Lab ID: 1804B37-030

Matrix: SOIL

Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: MRA	
Chloride	1100	30		mg/Kg	20	4/27/2018 10:12:41 AM	37829

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



## Analytical Report

Lab Order 1804B37

Date Reported: 5/3/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: L-38

Project: Zack McCormick Ditch

Collection Date: 4/18/2018 10:27:00 AM

Lab ID: 1804B37-031

Matrix: SOIL

Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	270	30		mg/Kg	20	4/27/2018 10:25:06 AM	37829
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/25/2018 12:54:43 AM	37745
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/25/2018 12:54:43 AM	37745
Surr: DNOP	71.2	70-130		%Rec	1	4/25/2018 12:54:43 AM	37745
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/24/2018 7:49:55 PM	37744
Surr: BFB	86.7	15-316		%Rec	1	4/24/2018 7:49:55 PM	37744
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	4/24/2018 7:49:55 PM	37744
Toluene	ND	0.050		mg/Kg	1	4/24/2018 7:49:55 PM	37744
Ethylbenzene	ND	0.050		mg/Kg	1	4/24/2018 7:49:55 PM	37744
Xylenes, Total	ND	0.099		mg/Kg	1	4/24/2018 7:49:55 PM	37744
Surr: 4-Bromofluorobenzene	98.7	80-120		%Rec	1	4/24/2018 7:49:55 PM	37744

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

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

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Analytical Report

Lab Order 1804B37

Date Reported: 5/3/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: SW41

Project: Zack McCormick Ditch

Collection Date: 4/18/2018 12:30:00 PM

Lab ID: 1804B37-032

Matrix: SOIL

Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: MRA	
Chloride	170	30		mg/Kg	20	4/27/2018 11:02:19 AM	37829

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

## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW40**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 12:36:00 PM**Lab ID:** 1804B37-033**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	240		30	mg/Kg	20	4/27/2018 11:14:44 AM	37829

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW43**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 12:42:00 PM**Lab ID:** 1804B37-034**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	800	30		mg/Kg	20	4/27/2018 11:27:09 AM	37829

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW42**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 12:46:00 PM**Lab ID:** 1804B37-035**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	100	30		mg/Kg	20	4/27/2018 11:39:34 AM	37829

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW50**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 1:37:00 PM**Lab ID:** 1804B37-036**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	250		30	mg/Kg	20	4/27/2018 11:51:59 AM	37829

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW51**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 1:42:00 PM**Lab ID:** 1804B37-037**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	110	30		mg/Kg	20	4/27/2018 12:04:23 PM	37829

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW44**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 2:07:00 PM**Lab ID:** 1804B37-038**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	820	30		mg/Kg	20	4/27/2018 12:16:48 PM	37829

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW45**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 2:15:00 PM**Lab ID:** 1804B37-039**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	490	30		mg/Kg	20	4/27/2018 12:29:12 PM	37829

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

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

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## Analytical Report

Lab Order 1804B37

Date Reported: 5/3/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: L50

Project: Zack McCormick Ditch

Collection Date: 4/18/2018 1:32:00 PM

Lab ID: 1804B37-040

Matrix: SOIL

Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	720	30		mg/Kg	20	4/27/2018 12:41:36 PM	37829
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	4/25/2018 1:18:35 AM	37745
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/25/2018 1:18:35 AM	37745
Surr: DNOP	79.2	70-130		%Rec	1	4/25/2018 1:18:35 AM	37745
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/24/2018 8:13:08 PM	37744
Surr: BFB	90.7	15-316		%Rec	1	4/24/2018 8:13:08 PM	37744
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	4/24/2018 8:13:08 PM	37744
Toluene	ND	0.049		mg/Kg	1	4/24/2018 8:13:08 PM	37744
Ethylbenzene	ND	0.049		mg/Kg	1	4/24/2018 8:13:08 PM	37744
Xylenes, Total	ND	0.098		mg/Kg	1	4/24/2018 8:13:08 PM	37744
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	4/24/2018 8:13:08 PM	37744

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** L44**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 12:15:00 PM**Lab ID:** 1804B37-041**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	700		30	mg/Kg	20	4/27/2018 12:54:01 PM	37829

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

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

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## Analytical Report

Lab Order 1804B37

Date Reported: 5/3/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: L41

Project: Zack McCormick Ditch

Collection Date: 4/18/2018 12:48:00 PM

Lab ID: 1804B37-042

Matrix: SOIL

Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	920	30		mg/Kg	20	4/27/2018 1:31:14 PM	37829
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	4/25/2018 1:42:02 AM	37745
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/25/2018 1:42:02 AM	37745
Surr: DNOP	83.2	70-130		%Rec	1	4/25/2018 1:42:02 AM	37745
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/24/2018 8:36:28 PM	37744
Surr: BFB	84.4	15-316		%Rec	1	4/24/2018 8:36:28 PM	37744
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	4/24/2018 8:36:28 PM	37744
Toluene	ND	0.047		mg/Kg	1	4/24/2018 8:36:28 PM	37744
Ethylbenzene	ND	0.047		mg/Kg	1	4/24/2018 8:36:28 PM	37744
Xylenes, Total	ND	0.094		mg/Kg	1	4/24/2018 8:36:28 PM	37744
Surr: 4-Bromofluorobenzene	97.0	80-120		%Rec	1	4/24/2018 8:36:28 PM	37744

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW49**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 1:45:00 PM**Lab ID:** 1804B37-043**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	130	30		mg/Kg	20	4/27/2018 1:43:39 PM	37829

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

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

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## Analytical Report

Lab Order 1804B37

Date Reported: 5/3/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: L46

Project: Zack McCormick Ditch

Collection Date: 4/18/2018 12:03:00 PM

Lab ID: 1804B37-044

Matrix: SOIL

Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	760	30		mg/Kg	20	4/27/2018 1:56:04 PM	37829
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	8.2		mg/Kg	1	4/25/2018 2:05:40 AM	37745
Motor Oil Range Organics (MRO)	ND	41		mg/Kg	1	4/25/2018 2:05:40 AM	37745
Surr: DNOP	82.5	70-130		%Rec	1	4/25/2018 2:05:40 AM	37745
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/24/2018 9:00:02 PM	37744
Surr: BFB	88.4	15-316		%Rec	1	4/24/2018 9:00:02 PM	37744
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	4/24/2018 9:00:02 PM	37744
Toluene	ND	0.049		mg/Kg	1	4/24/2018 9:00:02 PM	37744
Ethylbenzene	ND	0.049		mg/Kg	1	4/24/2018 9:00:02 PM	37744
Xylenes, Total	ND	0.098		mg/Kg	1	4/24/2018 9:00:02 PM	37744
Surr: 4-Bromofluorobenzene	95.9	80-120		%Rec	1	4/24/2018 9:00:02 PM	37744

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW48**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 1:39:00 PM**Lab ID:** 1804B37-045**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	170	30		mg/Kg	20	4/27/2018 2:08:29 PM	37829

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW55**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 3:06:00 PM**Lab ID:** 1804B37-046**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	200	30		mg/Kg	20	4/27/2018 10:16:28 AM	37833

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW52**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 3:18:00 PM**Lab ID:** 1804B37-047**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	180	30		mg/Kg	20	4/27/2018 10:28:53 AM	37833

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

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

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## Analytical Report

Lab Order **1804B37**Date Reported: **5/3/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates**Client Sample ID:** SW53**Project:** Zack McCormick Ditch**Collection Date:** 4/18/2018 3:30:00 PM**Lab ID:** 1804B37-048**Matrix:** SOIL**Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	110	30		mg/Kg	20	4/27/2018 10:41:18 AM	37833

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

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

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## Analytical Report

Lab Order 1804B37

Date Reported: 5/3/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: L54

Project: Zack McCormick Ditch

Collection Date: 4/18/2018 3:30:00 PM

Lab ID: 1804B37-049

Matrix: SOIL

Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	170	30		mg/Kg	20	5/2/2018 5:01:17 PM	37914
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/25/2018 8:09:43 AM	37772
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/25/2018 8:09:43 AM	37772
Surr: DNOP	87.8	70-130		%Rec	1	4/25/2018 8:09:43 AM	37772
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/24/2018 9:23:22 PM	37744
Surr: BFB	87.1	15-316		%Rec	1	4/24/2018 9:23:22 PM	37744
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	4/24/2018 9:23:22 PM	37744
Toluene	ND	0.049		mg/Kg	1	4/24/2018 9:23:22 PM	37744
Ethylbenzene	ND	0.049		mg/Kg	1	4/24/2018 9:23:22 PM	37744
Xylenes, Total	ND	0.098		mg/Kg	1	4/24/2018 9:23:22 PM	37744
Surr: 4-Bromofluorobenzene	96.3	80-120		%Rec	1	4/24/2018 9:23:22 PM	37744

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

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

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## Analytical Report

Lab Order 1804B37

Date Reported: 5/3/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: L52

Project: Zack McCormick Ditch

Collection Date: 4/18/2018 4:00:00 PM

Lab ID: 1804B37-050

Matrix: SOIL

Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	540	30		mg/Kg	20	5/2/2018 5:13:41 PM	37914
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/25/2018 9:20:09 AM	37772
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/25/2018 9:20:09 AM	37772
Surr: DNOP	86.4	70-130		%Rec	1	4/25/2018 9:20:09 AM	37772
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/24/2018 9:46:41 PM	37744
Surr: BFB	89.0	15-316		%Rec	1	4/24/2018 9:46:41 PM	37744
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	4/24/2018 9:46:41 PM	37744
Toluene	ND	0.050		mg/Kg	1	4/24/2018 9:46:41 PM	37744
Ethylbenzene	ND	0.050		mg/Kg	1	4/24/2018 9:46:41 PM	37744
Xylenes, Total	ND	0.10		mg/Kg	1	4/24/2018 9:46:41 PM	37744
Surr: 4-Bromofluorobenzene	98.5	80-120		%Rec	1	4/24/2018 9:46:41 PM	37744

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

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

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## Analytical Report

Lab Order 1804B37

Date Reported: 5/3/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Client Sample ID: L48

Project: Zack McCormick Ditch

Collection Date: 4/18/2018 1:36:00 PM

Lab ID: 1804B37-051

Matrix: SOIL

Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	160	30		mg/Kg	20	5/2/2018 5:50:55 PM	37914
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	11	9.3		mg/Kg	1	4/26/2018 12:02:13 PM	37772
Motor Oil Range Organics (MRO)	83	46		mg/Kg	1	4/26/2018 12:02:13 PM	37772
Surr: DNOP	100	70-130		%Rec	1	4/26/2018 12:02:13 PM	37772
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/24/2018 11:19:43 PM	37744
Surr: BFB	87.6	15-316		%Rec	1	4/24/2018 11:19:43 PM	37744
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	4/24/2018 11:19:43 PM	37744
Toluene	ND	0.048		mg/Kg	1	4/24/2018 11:19:43 PM	37744
Ethylbenzene	ND	0.048		mg/Kg	1	4/24/2018 11:19:43 PM	37744
Xylenes, Total	ND	0.096		mg/Kg	1	4/24/2018 11:19:43 PM	37744
Surr: 4-Bromofluorobenzene	96.0	80-120		%Rec	1	4/24/2018 11:19:43 PM	37744

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

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

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**WO#: **1804B37****03-May-18****Client:** Souder, Miller & Associates**Project:** Zack McCormick Ditch

Sample ID <b>MB-37795</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>37795</b>		RunNo: <b>50849</b>							
Prep Date: <b>4/25/2018</b>	Analysis Date: <b>4/25/2018</b>		SeqNo: <b>1650239</b>	Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID <b>LCS-37795</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>37795</b>		RunNo: <b>50849</b>							
Prep Date: <b>4/25/2018</b>	Analysis Date: <b>4/25/2018</b>		SeqNo: <b>1650240</b>	Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.5	90	110			

Sample ID <b>MB-37818</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>37818</b>		RunNo: <b>50859</b>							
Prep Date: <b>4/26/2018</b>	Analysis Date: <b>4/26/2018</b>		SeqNo: <b>1651466</b>	Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID <b>LCS-37818</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>37818</b>		RunNo: <b>50859</b>							
Prep Date: <b>4/26/2018</b>	Analysis Date: <b>4/26/2018</b>		SeqNo: <b>1651467</b>	Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.0	90	110			

Sample ID <b>MB-37829</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>37829</b>		RunNo: <b>50898</b>							
Prep Date: <b>4/27/2018</b>	Analysis Date: <b>4/27/2018</b>		SeqNo: <b>1651919</b>	Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID <b>LCS-37829</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>37829</b>		RunNo: <b>50898</b>							
Prep Date: <b>4/27/2018</b>	Analysis Date: <b>4/27/2018</b>		SeqNo: <b>1651920</b>	Units: <b>mg/Kg</b>						
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			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

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

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**WO#: **1804B37****03-May-18****Client:** Souder, Miller & Associates**Project:** Zack McCormick Ditch

Sample ID <b>MB-37833</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>37833</b>		RunNo: <b>50900</b>							
Prep Date: <b>4/27/2018</b>	Analysis Date: <b>4/27/2018</b>		SeqNo: <b>1652052</b>	Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID <b>LCS-37833</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>37833</b>		RunNo: <b>50900</b>							
Prep Date: <b>4/27/2018</b>	Analysis Date: <b>4/27/2018</b>		SeqNo: <b>1652053</b>	Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.9	90	110			

Sample ID <b>MB-37914</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>37914</b>		RunNo: <b>50986</b>							
Prep Date: <b>5/2/2018</b>	Analysis Date: <b>5/2/2018</b>		SeqNo: <b>1656352</b>	Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID <b>LCS-37914</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>37914</b>		RunNo: <b>50986</b>							
Prep Date: <b>5/2/2018</b>	Analysis Date: <b>5/2/2018</b>		SeqNo: <b>1656353</b>	Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.1	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#: **1804B37**

03-May-18

**Client:** Souder, Miller & Associates**Project:** Zack McCormick Ditch

Sample ID <b>LCS-37745</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>37745</b>			RunNo: <b>50794</b>						
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>			SeqNo: <b>1648086</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.2	70	130			
Surr: DNOP	4.1		5.000		82.3	70	130			

Sample ID <b>MB-37745</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>37745</b>			RunNo: <b>50794</b>						
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>			SeqNo: <b>1648087</b>			Units: <b>mg/Kg</b>			
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	9.0		10.00		89.6	70	130			

Sample ID <b>1804B37-049AMS</b>	SampType: <b>MS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>L54</b>	Batch ID: <b>37772</b>			RunNo: <b>50794</b>						
Prep Date: <b>4/24/2018</b>	Analysis Date: <b>4/25/2018</b>			SeqNo: <b>1649772</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.7	48.54	8.146	75.8	55.8	125			
Surr: DNOP	3.8		4.854		78.3	70	130			

Sample ID <b>1804B37-049AMSD</b>	SampType: <b>MSD</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>L54</b>	Batch ID: <b>37772</b>			RunNo: <b>50794</b>						
Prep Date: <b>4/24/2018</b>	Analysis Date: <b>4/25/2018</b>			SeqNo: <b>1649773</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.2	45.96	8.146	81.4	55.8	125	1.37	20	
Surr: DNOP	3.5		4.596		76.5	70	130	0	0	

Sample ID <b>LCS-37772</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>37772</b>			RunNo: <b>50794</b>						
Prep Date: <b>4/24/2018</b>	Analysis Date: <b>4/25/2018</b>			SeqNo: <b>1649793</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	93.0	70	130			
Surr: DNOP	4.1		5.000		82.1	70	130			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1804B37

03-May-18

Client: Souder, Miller & Associates

Project: Zack McCormick Ditch

Sample ID	MB-37772	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	37772	RunNo:	50794					
Prep Date:	4/24/2018	Analysis Date:	4/25/2018	SeqNo:	1649794	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	9.4		10.00		93.7	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 55 of 58
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#: **1804B37****03-May-18****Client:** Souder, Miller & Associates**Project:** Zack McCormick Ditch

Sample ID <b>MB-37744</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>37744</b>		RunNo: <b>50797</b>							
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>		SeqNo: <b>1648227</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		87.8	15	316			

Sample ID <b>LCS-37744</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>37744</b>		RunNo: <b>50797</b>							
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>		SeqNo: <b>1648228</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	109	75.9	131			
Surr: BFB	980		1000		98.0	15	316			

Sample ID <b>1804B37-006AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>L32</b>	Batch ID: <b>37744</b>		RunNo: <b>50797</b>							
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>		SeqNo: <b>1648236</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	33	4.7	23.61	0	138	77.8	128			S
Surr: BFB	980		944.3		103	15	316			

Sample ID <b>1804B37-006AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>L32</b>	Batch ID: <b>37744</b>		RunNo: <b>50797</b>							
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>		SeqNo: <b>1648237</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	4.6	22.91	0	137	77.8	128	4.05	20	S
Surr: BFB	990		916.6		108	15	316	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#: **1804B37**

03-May-18

**Client:** Souder, Miller & Associates**Project:** Zack McCormick Ditch

Sample ID <b>MB-37744</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>37744</b>		RunNo: <b>50797</b>							
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>		SeqNo: <b>1648262</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.97		1.000		97.1	80	120			

Sample ID <b>LCS-37744</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>37744</b>		RunNo: <b>50797</b>							
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>		SeqNo: <b>1648263</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.94	0.10	1.000	0	94.2	70.1	121			
Benzene	0.99	0.025	1.000	0	98.8	77.3	128			
Toluene	1.0	0.050	1.000	0	102	79.2	125			
Ethylbenzene	1.0	0.050	1.000	0	102	80.7	127			
Xylenes, Total	3.2	0.10	3.000	0	106	81.6	129			
Surr: 4-Bromofluorobenzene	0.99		1.000		98.8	80	120			

Sample ID <b>1804B37-008AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>L37</b>	Batch ID: <b>37744</b>		RunNo: <b>50797</b>							
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>		SeqNo: <b>1648272</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.1	0.096	0.9579	0	116	56.9	130			
Benzene	1.1	0.024	0.9579	0	117	68.5	133			
Toluene	1.2	0.048	0.9579	0	123	75	130			
Ethylbenzene	1.2	0.048	0.9579	0	125	79.4	128			
Xylenes, Total	3.7	0.096	2.874	0	128	77.3	131			
Surr: 4-Bromofluorobenzene	0.98		0.9579		102	80	120			

Sample ID <b>1804B37-008AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>L37</b>	Batch ID: <b>37744</b>		RunNo: <b>50797</b>							
Prep Date: <b>4/23/2018</b>	Analysis Date: <b>4/24/2018</b>		SeqNo: <b>1648273</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.1	0.097	0.9699	0	108	56.9	130	5.79	20	
Benzene	1.1	0.024	0.9699	0	110	68.5	133	4.61	20	
Toluene	1.1	0.048	0.9699	0	116	75	130	4.84	20	
Ethylbenzene	1.1	0.048	0.9699	0	117	79.4	128	5.70	20	

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical 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#: 1804B37  
03-May-18

Client: Souder, Miller & Associates  
Project: Zack McCormick Ditch

Sample ID	1804B37-008AMSD		SampType:	MSD		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	L37		Batch ID:	37744		RunNo:	50797				
Prep Date:	4/23/2018		Analysis Date:	4/24/2018		SeqNo:	1648273		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Xylenes, Total	3.5	0.097	2.910	0	120	77.3	131	5.11	20		
Surr: 4-Bromofluorobenzene	0.99		0.9699		102	80	120	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



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: 1804B37

RcptNo: 1

Received By: Isaiah Ortiz

4/21/2018 9:40:00 AM

IG

Completed By: Ashley Gallegos

4/23/2018 8:14:24 AM

AG

Reviewed By: mm 4/23/18

labeled by: ENM

Chain of Custody1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐2. How was the sample delivered? CourierLog In3. 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)

# of preserved bottles checked for pH: ENM 4/23/18  
( $\leq 2$  or  $> 12$  unless noted)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.)

Adjusted? \_\_\_\_\_  
Checked by: \_\_\_\_\_Special Handling (if applicable)15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

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

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

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

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

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

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

16. Additional remarks: \_\_\_\_\_

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Yes			











## Chain-of-Custody Record

Client: SMA - Carlsbad

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

☐ Standard ☒ Rush 5 day

Project Name:

Zack McCormick Bitch

Project #:

Project Manager:

Austin Weyant

Sampler: nes/ham/lem

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.9

Date Time Matrix Sample Request ID

4/18/18 3:30 8011 L54

" 4:00 " L52

" 1:30 " L48

Container Type and #

402

"

"

Preservative Type

HEAL No.

1804B37

-042

-050

-051

## Analysis Request

BTEX + MTBE + TMB's (8021)

BTEX + MTBE + TPH (Gas only)

TPH 8015B (GRO / DRO / MRO)

TPH (Method 418.1)

EDB (Method 504.1)

PAH's (8310 or 8270 SIMS)

RCRA 8 Metals

Anions (F, Cl, NO<sub>3</sub>, NO<sub>2</sub>, PO<sub>4</sub>, SO<sub>4</sub>)

8081 Pesticides / 8082 PCB's

8260B (VOA)

8270 (Semi-VOA)

Air Bubbles (Y or N)

Remarks:

Matador

Page 5 of 5

Date Time

4/20/18 0900

Date Time

Received by:

[Signature]

Received by:

Relinquished by:

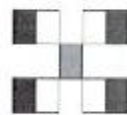
M. Sanjani

Relinquished by:

Date Time

4/20/18 0900

Date Time



**HALL ENVIRONMENTAL**  
**ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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



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

November 01, 2018

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

RE: Zach McCormick

OrderNo.: 1810E24

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 14 sample(s) on 10/27/2018 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order: 1810E24

Date Reported: 11/1/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Lab Order: 1810E24

Project: Zach McCormick

Lab ID: 1810E24-001

Collection Date: 10/25/2018 9:00:00 AM

Client Sample ID: SW47

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 300.0: ANIONS

Analyst: smb

Chloride	ND	30		mg/Kg	20	10/31/2018 4:58:16 PM	41286
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Lab ID: 1810E24-002

Collection Date: 10/25/2018 9:31:00 AM

Client Sample ID: SW23

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 300.0: ANIONS

Analyst: smb

Chloride	ND	30		mg/Kg	20	10/31/2018 5:35:31 PM	41286
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Lab ID: 1810E24-003

Collection Date: 10/25/2018 9:12:00 AM

Client Sample ID: SW44

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 300.0: ANIONS

Analyst: smb

Chloride	ND	30		mg/Kg	20	10/31/2018 5:47:56 PM	41286
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Lab ID: 1810E24-004

Collection Date: 10/25/2018 9:18:00 AM

Client Sample ID: SW43

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 300.0: ANIONS

Analyst: smb

Chloride	ND	30		mg/Kg	20	10/31/2018 6:00:21 PM	41286
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Lab ID: 1810E24-005

Collection Date: 10/25/2018 9:22:00 AM

Client Sample ID: SW29

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 300.0: ANIONS

Analyst: smb

Chloride	ND	30		mg/Kg	20	10/31/2018 6:12:45 PM	41286
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Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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

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

Page 1 of 4

## Analytical Report

Lab Order: 1810E24

Date Reported: 11/1/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Lab Order: 1810E24

Project: Zach McCormick

Lab ID: 1810E24-006

Collection Date: 10/25/2018 10:30:00 AM

Client Sample ID: SW2

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 300.0: ANIONS

Analyst: smb

Chloride	ND	30		mg/Kg	20	10/31/2018 6:25:10 PM	41286
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Lab ID: 1810E24-007

Collection Date: 10/25/2018 11:07:00 AM

Client Sample ID: Irr. South

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 300.0: ANIONS

Analyst: MRA

Chloride	ND	30		mg/Kg	20	10/31/2018 6:46:30 PM	41296
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Lab ID: 1810E24-008

Collection Date: 10/25/2018 10:51:00 AM

Client Sample ID: L50

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 300.0: ANIONS

Analyst: MRA

Chloride	ND	30		mg/Kg	20	10/31/2018 6:58:55 PM	41296
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Lab ID: 1810E24-009

Collection Date: 10/25/2018 11:17:00 AM

Client Sample ID: L46

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 300.0: ANIONS

Analyst: MRA

Chloride	ND	30		mg/Kg	20	10/31/2018 7:36:08 PM	41296
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Lab ID: 1810E24-010

Collection Date: 10/25/2018 11:23:00 AM

Client Sample ID: L44

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 300.0: ANIONS

Analyst: MRA

Chloride	ND	30		mg/Kg	20	10/31/2018 8:13:22 PM	41302
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Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	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

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

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## Analytical Report

Lab Order: 1810E24

Date Reported: 11/1/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller &amp; Associates

Lab Order: 1810E24

Project: Zach McCormick

Lab ID: 1810E24-011

Collection Date: 10/25/2018 11:46:00 AM

Client Sample ID: L41

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 300.0: ANIONS

Analyst: MRA

Chloride	ND	30		mg/Kg	20	10/31/2018 8:50:36 PM	41302
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Lab ID: 1810E24-012

Collection Date: 10/25/2018 12:07:00 PM

Client Sample ID: L9

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 300.0: ANIONS

Analyst: MRA

Chloride	ND	30		mg/Kg	20	10/31/2018 9:27:50 PM	41302
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Lab ID: 1810E24-013

Collection Date: 10/25/2018 12:32:00 PM

Client Sample ID: L5

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 300.0: ANIONS

Analyst: MRA

Chloride	ND	30		mg/Kg	20	10/31/2018 9:40:14 PM	41302
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Lab ID: 1810E24-014

Collection Date: 10/25/2018 12:21:00 PM

Client Sample ID: L6

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
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## EPA METHOD 300.0: ANIONS

Analyst: MRA

Chloride	ND	30		mg/Kg	20	10/31/2018 9:52:39 PM	41302
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Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	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

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

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

WO#: 1810E24

01-Nov-18

**Client:** Souder, Miller & Associates**Project:** Zach McCormick

Sample ID	MB-41296		SampType: mblk		TestCode: EPA Method 300.0: Anions					
Client ID:	PBS		Batch ID: 41296		RunNo: 55324					
Prep Date:	10/31/2018		Analysis Date: 10/31/2018		SeqNo: 1840446		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-41296		SampType: Ics		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 41296		RunNo: 55324					
Prep Date:	10/31/2018		Analysis Date: 10/31/2018		SeqNo: 1840447		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.0	90	110			

Sample ID	MB-41302		SampType:	mblk		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS		Batch ID:	41302		RunNo:	55324				
Prep Date:	10/31/2018		Analysis Date:	10/31/2018		SeqNo:	1840477		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	ND	1.5									

Sample ID	LCS-41302		SampType: lcs		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 41302		RunNo: 55324					
Prep Date:	10/31/2018		Analysis Date: 10/31/2018		SeqNo: 1840478		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.1	90	110			

Sample ID	MB-41286		SampType: mblk		TestCode: EPA Method 300.0: Anions					
Client ID:	PBS		Batch ID: 41286		RunNo: 55292					
Prep Date:	10/31/2018		Analysis Date: 10/31/2018		SeqNo: 1840690		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-41286		SampType: lcs		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 41286		RunNo: 55292					
Prep Date:	10/31/2018		Analysis Date: 10/31/2018		SeqNo: 1840691		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.8	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



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: 1810E24

RcptNo: 1

Received By: Isaiah Ortiz 10/27/2018 9:10:00 AM

IG

Completed By: Isaiah Ortiz 10/29/2018 12:06:39 PM

IG

Reviewed By: JO 10/29/18

LB: DAD 10/29/18

Chain of Custody1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? Courier

Log In3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐5. Sample(s) in proper container(s)? Yes ☒ No ☐6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒10. Were any sample containers received broken? Yes ☐ No ☒11. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐13. Is it clear what analyses were requested? Yes ☒ No ☐14. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐# of preserved  
bottles checked  
for pH:

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

Adjusted?

Checked by: DAD 10/29/18

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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Yes			







**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 175562

CONDITIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 175562
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	3/20/2023