



APPROVED

By Olivia Yu at 11:52 am, Sep 11, 2018

August 13, 2018

#5E26816- BG9

NMOCD District II
Olivia Yu
1625 N. French Drive
Hobbs, New Mexico 88240

NMOCD approves of the additional
delineation for 1RP-5099. See email
correspondence regarding proposed
remediation.

SUBJECT: SOIL REMEDIATION WORK PLAN FOR THE ANTELOPE RIDGE 24 SWD #001
(1RP-5099), LEA COUNTY, NEW MEXICO

Dear Olivia Yu:

On behalf of Matador Resources Company, Souder, Miller & Associates (SMA) has prepared this WORK PLAN that describes the assessment, delineation and proposed remediation for a release associated with the Antelope Ridge 24 SWD #001. The site is located in UNIT K, SECTION 24, TOWNSHIP 23S, RANGE 34E, NMPM, Lea County, New Mexico, on State land. Figure 1 illustrates the vicinity and location of the site.

Table 1, below, summarizes information regarding the release.

Table 1: Release information and Site Ranking	
Name	Antelope Ridge 24 SWD #001
Company	Matador Resources Company
RP Number	1RP-5099
API Number	30-025-26547
Location	32.288089° -103.426398°
Estimated Date of Release	6/7/18
Date Reported to NMOCD	6/8/17 incorrect
Land Owner	State of New Mexico
Reported To	Olivia Yu, NMOCD
Source of Release	Equipment Failure
Released Material	Produced Water
Released Volume	1,119 bbls
Recovered Volume	937 bbls
Net Release	182 bbls
Nearest Waterway	1 mile west of San Simon Sink
Depth to Groundwater	Greater than 200 feet
Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	0
SMA Response Dates	June 9 and July 3, 2018

1.0 Background

On June 7, 2018, piping on the gun barrel failed, resulting in a loss of power causing the release of approximately 1,119 barrels of produced water into secondary containment. The secondary containment overflowed, releasing produced water to the east, which pooled in the roadway and pasture. A vacuum truck recovered approximately 937 barrels of standing produced water. The impacted area was estimated to be 544 square yards. The release area is illustrated on Figure 2.

2.0 Site Ranking and Land Jurisdiction

The release site is located approximately one mile west of the San Simon Sink, with an elevation of approximately 3,368 feet above sea level. SMA searched the New Mexico State Engineer's Office (NMOSE) online water well database for water wells in the vicinity of the release. Zero domestic wells are located within a 1,000-foot radius of the site. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be greater than 200 feet below ground surface (bgs).

Recommended Remediation Action Levels (RRALs) are determined by the site ranking according to the NMOCD *Guidelines for Remediation of Leaks, Spills, and Releases* (1993). Below in Table 2 are the remediation standards and the site ranking for this location. Justification for this site ranking is found in Figure 1 and Appendix B.

Table 2.

Soil Remediation Standards	0 to 9	10 to 19	>19
Benzene	10 PPM	10 PPM	10 PPM
BTEX	50 PPM	50 PPM	50 PPM
TPH	5000 PPM	1000 PPM	100 PPM

Depth to Groundwater	NMOCD Numeric Rank
< 50 BGS = 20	
50' to 99' = 10	
>100' = 0	0
Distance to Nearest Surface Water	NMOCD Numeric Rank
< 200' = 20	
200' - 1000' = 10	
>1000' = 0	0
Well Head Protection	NMOCD Numeric Rank
<1000' (or <200' domestic) = 20	
> 1000' = 0	0
Total Site Ranking	0

3.0 Release Characterization

On June 9, 2018, an SMA representative was on site for an initial site evaluation and to determine the extent of the release. SMA collected surface to two-feet bgs soil samples which were field-screened using an EC meter and submitted for laboratory analysis of chlorides by Method 300.0. Three surface background samples (BG1- BG3) and two sample locations (L1 and L2)

On July 3, 2018, SMA conducted a delineation of the impacted area. Soil samples were collected from L1 and L2, as well as an additional six sample locations (L3, L4, SW1-3, SW-6). Samples were collected to maximum depth of fourteen (14) feet below grade surface (bgs). At location L2, an unmarked electrical line was encountered and further delineation in that area ceased due to safety protocols.

Samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analyses of chlorides by Method 300.0. Selected sample depths from locations L1, L3, and L4 were analyzed for volatile organics (BTEX) by Method 8021B, and MRO, DRO, and GRO by EPA Method 8015D. Sample locations, and the presumed location of the buried electrical line, are depicted on Figure 2. Laboratory results are summarized in Table 3. Laboratory reports are included in Appendix C.

4.0 Soil Remediation Workplan

SMA proposes the excavation and removal of contaminated soil as illustrated in Figure 2. The release area will be excavated to two (2) feet bgs around the north portion of the battery from L1 to L2. The buried electrical line will be exposed, which will allow the area around sample L2 to be further delineated, and will be further excavated if necessary. The area west of the battery, identified by L2, L3 and L4 will be excavated to four (4) feet bgs and a 40-mil liner will be placed within excavation. SMA will guide the excavation and delineation activities by collecting composite soil samples for field screening for chlorides with an electrical conductivity (EC) meter.

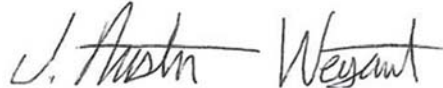
The release area will be excavated to the NMOCD Standards as identified in Table 2 listed in Section 2.0. Approximately 1,029 cubic yards of contaminated soil is projected to be removed. Confirmation samples will be collected from within the excavation. The excavation will be backfilled with clean material and contoured returning the surface to previous contours. Impacted soil will be transported for proper disposal at Lea Land Inc., near Carlsbad, New Mexico, an NMOCD permitted disposal facility.

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 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES



Austin Weyant
Project Scientist

Reviewed by:



Shawna Chubbuck
Senior Scientist

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Well Head Protection Map

Figure 2: Site and Sample Location Map

Tables:

Table 3: Summary of Sample Results

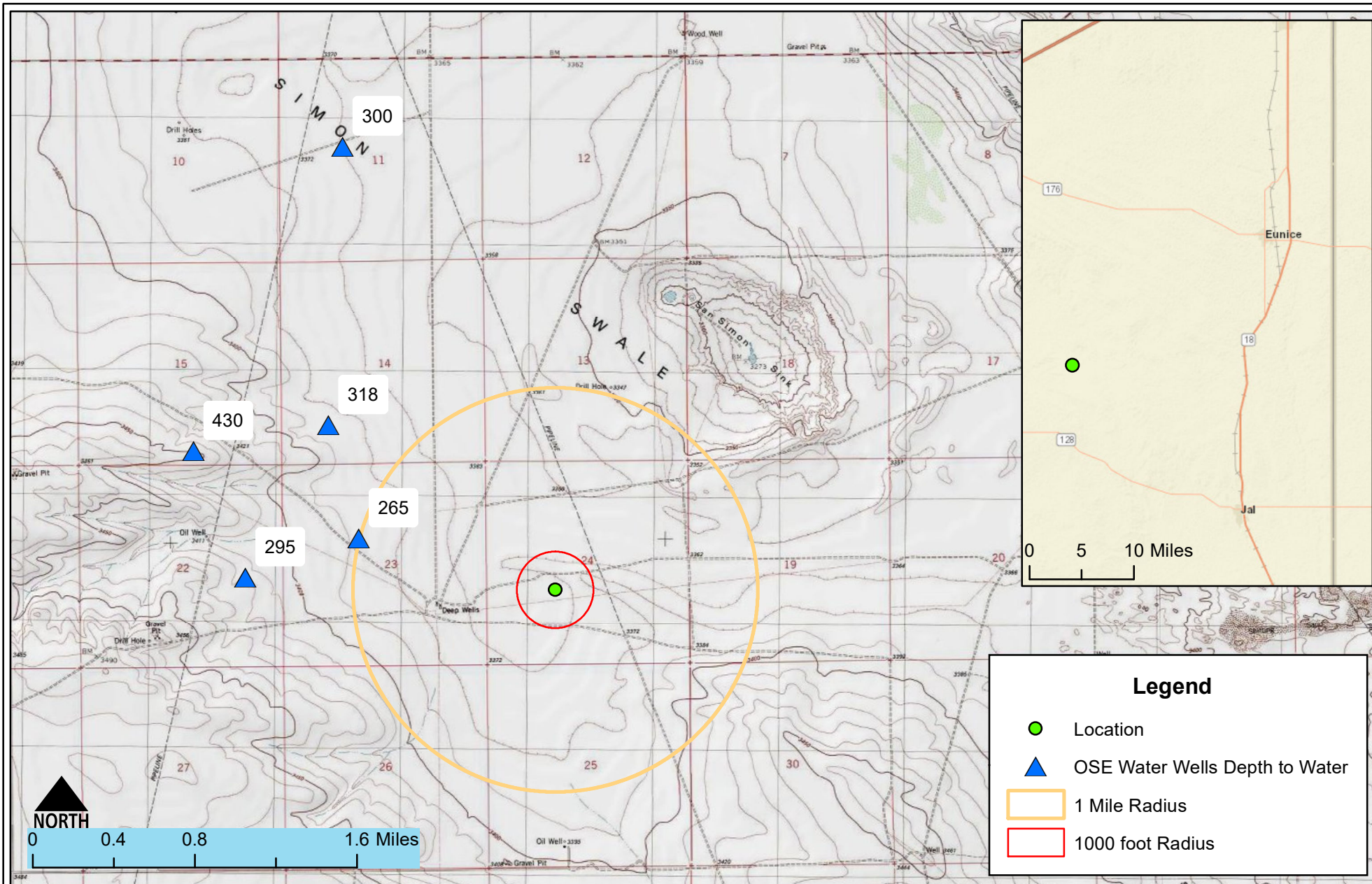
Appendices:

Appendix A: Form C141 Initial

Appendix B: NMOSE Wells Report

Appendix C: Laboratory Analytical Reports

FIGURE 1
VICINITY AND NMOSE
DATA MAP



VICINITY AND NMOSE DATA MAP
 ANTELOPE RIDGE 24 SWD #001 - Matador Resources
 S: 24 T23S R23E, Lea County New Mexico

Figure 1

Date Saved:
7/6/2018

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

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Drawn Lucas Middleton
 Checked _____
 Approved _____



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 Carlsbad, New Mexico 88221
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FIGURE 2
SITE AND SAMPLE
LOCATION MAP



Site and Sample Location Map
 ANTELOPE RIDGE 24 SWD #001 - Matador Resources
 S: 24 T23S R23E, Lea County New Mexico

Figure 2

Date Saved: 8/13/2018	By: _____	Date: _____	Revisions	Descr: _____
	By: _____	Date: _____		Descr: _____
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Drawn	<u>Lucas Middleton</u>
Checked	_____
Approved	_____



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TABLE 3
SUMMARY SAMPLE RESULTS

ANTELOPE RIDGE 24 SWD #001

Table 3

Sample Number on Figure 2	Sample Date	Depth (feet bgs)	Proposed Action	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	Total TPH mg/Kg	Cl- Field Screens (ppm)	Cl- Laboratory mg/Kg
NMOCD RRAL's for Site Ranking 0				50 mg/Kg	10 mg/Kg				5000 mg/Kg		
BG1	6/9/2018	Surface	In-Situ	---	---	---	---	---	---	---	<30
BG2	6/9/2018	Surface	In-Situ	---	---	---	---	---	---	---	30
BG3	6/9/2018	Surface	In-Situ	---	---	---	---	---	---	---	<30
L1	6/9/2018	Surface	Excavate	---	---	---	---	---	---	---	7600
	6/9/2018	1	Excavate	---	---	---	---	---	---	---	8600
		2	Excavate	---	---	---	---	---	---	---	---
	7/3/2018	3	In-Situ	<0.215	<0.024	<4.8	<9.8	<49	<63.6	---	580
	7/3/2018	7	In-Situ	<0.211	<0.023	<4.7	<9.9	<50	<64.6	---	<30
L2	6/9/2018	Surface	Excavate	---	---	---	---	---	---	---	8900
	7/3/2018	1	Excavate	---	---	---	---	---	---	---	1700
	6/9/2018	2	Excavate	---	---	---	---	---	---	---	8100
L3	7/3/2018	2	Excavate	<0.0945	<0.024	<4.8	<9.9	<50	<50		5200
	7/3/2018	3	Excavate	<0.214	<0.024	<4.8	<9.9	<50	<64.7	---	5400
		4	Excavate/Liner	---	---	---	---	---	---	---	---
	7/3/2018	5	In-Situ	---	---	---	---	---	---	---	3800
	7/3/2018	6	In-Situ	---	---	---	---	---	---	---	170
	7/3/2018	10	In-Situ	<0.215	<0.024	<4.8	<10	<50	<64.8	---	230
L4		1-4	Excavate/Liner	---	---	---	---	---	---	---	---
	7/3/2018	6	In-Situ	<0.221	<0.025	<4.9	<9.9	<50	<64.8	---	3400
	7/3/2018	7	In-Situ	---	---	---	---	---	---	---	4100
	7/3/2018	10	In-Situ	---	---	---	---	---	---	---	<30
	7/3/2018	14	In-Situ	<0.216	<0.024	<4.8	<10	<50	<64.8	---	83
SW-1	7/3/2018	1	In-Situ	---	---	---	---	---	---	---	190
SW-2	7/3/2018	1	In-Situ	---	---	---	---	---	---	---	40
SW-3	7/3/2018	1	In-Situ	---	---	---	---	---	---	---	120
SW-6	7/3/2018	1	In-Situ	---	---	---	---	---	---	---	760

--- = Not Analyzed

APPENDIX A
FORM C141 INITIAL

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Matador Resources Company	Contact John Hurt
Address 5400 LBJ Freeway, Suite 1500 Dallas, TX 75240	Telephone No. 972-371-5200
Facility Name ANTELOPE RIDGE 24 SWD #001	Facility Type Salt Water Disposal
Surface Owner State of New Mexico	Mineral Owner State of New Mexico
API No. 30-025-26547	

LOCATION OF RELEASE

Unit Letter K	Section 24	Township 23S	Range 34E	Feet from the 1980	North/South Line South	Feet from the 1980	East/West Line West	County Lea
------------------	---------------	-----------------	--------------	-----------------------	---------------------------	-----------------------	------------------------	---------------

Latitude 32.288089° Longitude -103.426398° NAD83

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 1,119 bbl	Volume Recovered 937 bbl
Source of Release Equipment Failure	Date and Hour of Occurrence 6/7/18 ~6:00 p.m.	Date and Hour of Discovery 6/7/18 ~8:00p.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Olivia Yu	
By Whom? Lucas Middleton(SMA)	Date and Hour 6/8/18 3:08 pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

N/A

RECEIVED

By Olivia Yu at 3:50 pm, Jun 15, 2018

Describe Cause of Problem and Remedial Action Taken.*

Piping on Gun barrel failed and lost of power causing the secondary containment to fill until the fluids spilled over the front of the battery running east and pooled in roadway and pasture. The location was shut down and a vacuum truck was on site vacuuming all standing fluids

Describe Area Affected and Cleanup Action Taken.*

The release occurred within the secondary containment and on the pad, road and pasture (~544 square yards). 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 NMOC 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 NMOC 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, NMOC 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.

OIL CONSERVATION DIVISION

Signature: 

Printed Name: John Hurt

Title: RES Specialist

E-mail Address: Jhurt@matadorresources.com

Date: 6-15-18

Phone: 972-371-5200

Approved by Environmental Specialist: 

Approval Date: 6/15/2018

Expiration Date:

Conditions of Approval:

see attached directive

Attached ☐

* Attach Additional Sheets If Necessary

1RP-5099

nOY1816657191

pOY1816657512

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 6/13/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 1RP-5099 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 1 office in Hobbs on or before 7/15/2018. 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; C₆ thru C₃₆), 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; C₆ thru C₃₆), 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

From: Lucas Middleton
To: [Yu, Olivia, EMNRD](#)
Subject: Initial Notification ANTELOPE RIDGE 24 SWD #001, MATADOR PRODUCTION COMPANY, 30-025-26547
Date: Friday, June 8, 2018 3:07:47 PM
Attachments: image002.png

Souder, Miller and Associates on behalf of Matador Resources Company is submitting an initial notification of a release that occurred on 8/7/18. The site and release details are below.

MATADOR PRODUCTION COMPANY

ANTELOPE RIDGE 24 SWD #001

30-025-26547

Salt Water Disposal

GPS Location: 32.2883301,-103.425857

Surface Land Owner: State of New Mexico

Cause of Release: Equipment failure on Gun barrel.

Pathway: The secondary containment filled until the fluids spilled over the front of the battery running east and pooled in roadway and pasture. No waterways were reached.

Estimated release area outside of containment: 544 square yards

Estimated Date of Release: 6/7/18/18 6:00p.m.

Date of Discovery : 6/7/18 8:00 p.m.

Estimated Volume loss: 812 bbls total of Oil and Produced Water

Secondary Containment: ~630 bbls

Non Secondary Containment: ~ 182 bbls

A vacuum truck is on site to capture all standing fluid. Also heavy equipment will be onsite to remove top layer of soil within the release area.

SMA was onsite on 6/8/18 to evaluate the release that occurred.

Lucas Middleton
Staff GeoScientist
(575) 499-9244 (mobile)



Souder, Miller & Associates
Engineering Environmental Surveying
201 S. Halagueno
Carlsbad, NM 88220
www.soudermiller.com

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attachment(s) is free of computer viruses or other harmful software. SMA does not accept liability for any damages caused by any computer virus or other harmful software transmitted herewith.

APPENDIX B

NMOSE WELLS REPORT



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 00606	CP	LE		4	1	23	23S	34E		646613	3573854*	1613	650	265	385
CP 00580	CP	LE		3	4	3	23	23S	34E	646524	3572948*	1728	220		
CP 01120 POD1	CP	LE				3	14	23S	34E	646366	3574753	2227	397	318	79
CP 00618	CP	LE		1	2	4	22	23S	34E	645713	3573539*	2464	428	295	133
CP 00637	CP	LE		3	3	4	15	23S	34E	645293	3574541*	3080	430	430	0
CP 01258 POD1	CP	LE		1	4	3	22	23S	34E	645015	3573221	3170	25		
CP 01258 POD3	CP	LE		1	4	3	22	23S	34E	644938	3573097	3258	25		
CP 01258 POD2	CP	LE		1	4	3	22	23S	34E	644941	3572883	3285	65		
E 07616 POD1	E	TO								646466	3576970	3908	500	300	200

Average Depth to Water: **321 feet**

Minimum Depth: **265 feet**

Maximum Depth: **430 feet**

Record Count: 9

UTMNAD83 Radius Search (in meters):

Easting (X): 648176.56

Northing (Y): 3573456

Radius: 5000

*UTM location was derived from PLSS - see Help

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

APPENDIX C
LABORATORY ANALYTICAL
REPORTS



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

July 05, 2018

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

RE: Antelop Ridge 24

OrderNo.: 1806D09

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 7 sample(s) on 6/21/2018 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 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1806D09

Date Reported: 7/5/2018

CLIENT: Souder, Miller & Associates
Project: Antelop Ridge 24

Lab Order: 1806D09

Lab ID: 1806D09-001

Collection Date: 6/9/2018 1:00:00 PM

Client Sample ID: B61

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
----------	--------	-----	------	-------	----	---------------	----------

EPA METHOD 300.0: ANIONS

Analyst: MRA

Chloride	ND	30		mg/Kg	20	6/27/2018 12:34:48 PM	38916
----------	----	----	--	-------	----	-----------------------	-------

Lab ID: 1806D09-002

Collection Date: 6/9/2018 1:20:00 PM

Client Sample ID: B62

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
----------	--------	-----	------	-------	----	---------------	----------

EPA METHOD 300.0: ANIONS

Analyst: MRA

Chloride	30	30		mg/Kg	20	6/27/2018 12:47:12 PM	38916
----------	----	----	--	-------	----	-----------------------	-------

Lab ID: 1806D09-003

Collection Date: 6/9/2018 1:30:00 PM

Client Sample ID: B63

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
----------	--------	-----	------	-------	----	---------------	----------

EPA METHOD 300.0: ANIONS

Analyst: MRA

Chloride	ND	30		mg/Kg	20	6/27/2018 12:59:36 PM	38916
----------	----	----	--	-------	----	-----------------------	-------

Lab ID: 1806D09-004

Collection Date: 6/9/2018 1:45:00 PM

Client Sample ID: L1-Surface

Matrix: SOIL

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

Analyst: MRA

Chloride	7600	300		mg/Kg	200	7/3/2018 4:20:11 PM	38916
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Lab ID: 1806D09-005

Collection Date: 6/9/2018 2:00:00 PM

Client Sample ID: L1-1

Matrix: SOIL

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

Analyst: MRA

Chloride	8600	300		mg/Kg	200	7/3/2018 4:32:36 PM	38916
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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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: **1806D09**

Date Reported: **7/5/2018**

CLIENT: Souder, Miller & Associates

Lab Order: 1806D09

Project: Antelop Ridge 24

Lab ID: 1806D09-006

Collection Date: 6/9/2018 2:05:00 PM

Client Sample ID: L2-Surface

Matrix: SOIL

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

Analyst: **MRA**

Chloride	8900	300		mg/Kg	200	7/3/2018 4:45:01 PM	38916
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Lab ID: 1806D09-007

Collection Date: 6/9/2018 2:20:00 PM

Client Sample ID: L2-2

Matrix: SOIL

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

Analyst: **MRA**

Chloride	8100	300		mg/Kg	200	7/3/2018 4:57:25 PM	38916
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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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1806D09

05-Jul-18

Client: Souder, Miller & Associates

Project: Antelop Ridge 24

Sample ID	MB-38916		SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS		Batch ID:	38916		RunNo:	52281				
Prep Date:	6/27/2018		Analysis Date:	6/27/2018		SeqNo:	1714260		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	ND	1.5									

Sample ID	LCS-38916		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 38916		RunNo: 52281					
Prep Date:	6/27/2018		Analysis Date: 6/27/2018		SeqNo: 1714261		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.0	90	110			

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1806D09

RcptNo: 1

Received By: Mandy Woods 6/21/2018 8:35:00 AM

Completed By: Michelle Garcia 6/21/2018 9:59:38 AM

Reviewed By: ENM 6/21/18

[Signature]

Michelle Garcia

Labeled by:
mw 6/21/18

Chain of Custody

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

2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐

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

5. Sample(s) in proper container(s)? Yes ☒ No ☐

6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐

7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐

8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐

9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒

10. Were any sample containers received broken? Yes ☐ No ☒

11. Does paperwork match bottle labels? Yes ☒ No ☐

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐

13. Is it clear what analyses were requested? Yes ☒ No ☐

14. Were all holding times able to be met? Yes ☒ No ☐

(If no, notify customer for authorization.)

of preserved
bottles checked
for pH:

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	0.3	Good	Yes			



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

July 17, 2018

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

RE: Antelope Ridge

OrderNo.: 1807268

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 18 sample(s) on 7/7/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: SW-1

Project: Antelope Ridge

Collection Date: 7/3/2018 9:15:00 AM

Lab ID: 1807268-001

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	190	30		mg/Kg	20	7/12/2018 11:36:22 AM	39174

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: L1-3

Project: Antelope Ridge

Collection Date: 7/3/2018 9:25:00 AM

Lab ID: 1807268-002

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	580	30		mg/Kg	20	7/12/2018 11:48:47 AM	39174
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/11/2018 4:20:00 PM	39124
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/11/2018 4:20:00 PM	39124
Surr: DNOP	103	70-130		%Rec	1	7/11/2018 4:20:00 PM	39124
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/10/2018 9:35:33 AM	39103
Surr: BFB	93.2	15-316		%Rec	1	7/10/2018 9:35:33 AM	39103
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	7/10/2018 9:35:33 AM	39103
Benzene	ND	0.024		mg/Kg	1	7/10/2018 9:35:33 AM	39103
Toluene	ND	0.048		mg/Kg	1	7/10/2018 9:35:33 AM	39103
Ethylbenzene	ND	0.048		mg/Kg	1	7/10/2018 9:35:33 AM	39103
Xylenes, Total	ND	0.095		mg/Kg	1	7/10/2018 9:35:33 AM	39103
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/10/2018 9:35:33 AM	39103

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: L1-7

Project: Antelope Ridge

Collection Date: 7/3/2018 9:35:00 AM

Lab ID: 1807268-003

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	ND	30		mg/Kg	20	7/12/2018 12:01:11 PM	39174
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/11/2018 5:26:39 PM	39124
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/11/2018 5:26:39 PM	39124
Surr: DNOP	74.0	70-130		%Rec	1	7/11/2018 5:26:39 PM	39124
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/10/2018 10:45:23 AM	39103
Surr: BFB	93.2	15-316		%Rec	1	7/10/2018 10:45:23 AM	39103
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.094		mg/Kg	1	7/10/2018 10:45:23 AM	39103
Benzene	ND	0.023		mg/Kg	1	7/10/2018 10:45:23 AM	39103
Toluene	ND	0.047		mg/Kg	1	7/10/2018 10:45:23 AM	39103
Ethylbenzene	ND	0.047		mg/Kg	1	7/10/2018 10:45:23 AM	39103
Xylenes, Total	ND	0.094		mg/Kg	1	7/10/2018 10:45:23 AM	39103
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	7/10/2018 10:45:23 AM	39103

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: SW-3

Project: Antelope Ridge

Collection Date: 7/3/2018 9:45:00 AM

Lab ID: 1807268-004

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	120	30		mg/Kg	20	7/12/2018 12:38:25 PM	39174

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: SW-4

Project: Antelope Ridge

Collection Date: 7/3/2018 9:55:00 AM

Lab ID: 1807268-005

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	340	30		mg/Kg	20	7/12/2018 12:50:50 PM	39174

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: L2-1

Project: Antelope Ridge

Collection Date: 7/3/2018 10:05:00 AM

Lab ID: 1807268-006

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1700	75		mg/Kg	50	7/14/2018 4:16:14 AM	39174

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: L3-2

Project: Antelope Ridge

Collection Date: 7/3/2018 10:15:00 AM

Lab ID: 1807268-007

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	5200	300		mg/Kg	200	7/14/2018 4:28:39 AM	39174

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: L3-3

Project: Antelope Ridge

Collection Date: 7/3/2018 10:25:00 AM

Lab ID: 1807268-008

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	5400	300		mg/Kg	200	7/14/2018 4:41:03 AM	39174
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/11/2018 5:49:04 PM	39124
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/11/2018 5:49:04 PM	39124
Surr: DNOP	74.9	70-130		%Rec	1	7/11/2018 5:49:04 PM	39124
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/10/2018 11:55:27 AM	39103
Surr: BFB	93.9	15-316		%Rec	1	7/10/2018 11:55:27 AM	39103
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	7/10/2018 11:55:27 AM	39103
Benzene	ND	0.024		mg/Kg	1	7/10/2018 11:55:27 AM	39103
Toluene	ND	0.048		mg/Kg	1	7/10/2018 11:55:27 AM	39103
Ethylbenzene	ND	0.048		mg/Kg	1	7/10/2018 11:55:27 AM	39103
Xylenes, Total	ND	0.095		mg/Kg	1	7/10/2018 11:55:27 AM	39103
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	7/10/2018 11:55:27 AM	39103

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: L3-5

Project: Antelope Ridge

Collection Date: 7/3/2018 10:35:00 AM

Lab ID: 1807268-009

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	3800	150		mg/Kg	100	7/14/2018 4:53:27 AM	39174

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: L3-6

Project: Antelope Ridge

Collection Date: 7/3/2018 10:45:00 AM

Lab ID: 1807268-010

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	170	30		mg/Kg	20	7/12/2018 2:17:44 PM	39174

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: L3-10

Project: Antelope Ridge

Collection Date: 7/3/2018 10:55:00 AM

Lab ID: 1807268-011

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	230	30		mg/Kg	20	7/12/2018 2:30:09 PM	39174
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/11/2018 6:11:24 PM	39124
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/11/2018 6:11:24 PM	39124
Surr: DNOP	72.8	70-130		%Rec	1	7/11/2018 6:11:24 PM	39124
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/10/2018 12:18:49 PM	39103
Surr: BFB	93.9	15-316		%Rec	1	7/10/2018 12:18:49 PM	39103
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	7/10/2018 12:18:49 PM	39103
Benzene	ND	0.024		mg/Kg	1	7/10/2018 12:18:49 PM	39103
Toluene	ND	0.048		mg/Kg	1	7/10/2018 12:18:49 PM	39103
Ethylbenzene	ND	0.048		mg/Kg	1	7/10/2018 12:18:49 PM	39103
Xylenes, Total	ND	0.095		mg/Kg	1	7/10/2018 12:18:49 PM	39103
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/10/2018 12:18:49 PM	39103

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: SW-5

Project: Antelope Ridge

Collection Date: 7/3/2018 11:50:00 AM

Lab ID: 1807268-012

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	ND	30		mg/Kg	20	7/12/2018 3:07:23 PM	39174

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: SW-6

Project: Antelope Ridge

Collection Date: 7/3/2018 11:59:00 AM

Lab ID: 1807268-013

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	760	30		mg/Kg	20	7/12/2018 3:19:47 PM	39174

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: L4-6

Project: Antelope Ridge

Collection Date: 7/3/2018 12:10:00 PM

Lab ID: 1807268-014

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	3400	150		mg/Kg	100	7/14/2018 5:05:52 AM	39174
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/13/2018 5:41:25 PM	39124
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/13/2018 5:41:25 PM	39124
Surr: DNOP	93.9	70-130		%Rec	1	7/13/2018 5:41:25 PM	39124
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/10/2018 12:42:15 PM	39103
Surr: BFB	92.7	15-316		%Rec	1	7/10/2018 12:42:15 PM	39103
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.098		mg/Kg	1	7/10/2018 12:42:15 PM	39103
Benzene	ND	0.025		mg/Kg	1	7/10/2018 12:42:15 PM	39103
Toluene	ND	0.049		mg/Kg	1	7/10/2018 12:42:15 PM	39103
Ethylbenzene	ND	0.049		mg/Kg	1	7/10/2018 12:42:15 PM	39103
Xylenes, Total	ND	0.098		mg/Kg	1	7/10/2018 12:42:15 PM	39103
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/10/2018 12:42:15 PM	39103

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: L4-7

Project: Antelope Ridge

Collection Date: 7/3/2018 12:20:00 PM

Lab ID: 1807268-015

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	4100	150		mg/Kg	100	7/14/2018 5:18:16 AM	39174

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: L4-10

Project: Antelope Ridge

Collection Date: 7/3/2018 12:30:00 PM

Lab ID: 1807268-016

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	ND	30		mg/Kg	20	7/12/2018 3:56:59 PM	39174

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: 7/17/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: L4-14

Project: Antelope Ridge

Collection Date: 7/3/2018 12:45:00 PM

Lab ID: 1807268-017

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	83	30		mg/Kg	20	7/12/2018 4:09:24 PM	39174
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: lrm
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/11/2018 6:55:56 PM	39124
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/11/2018 6:55:56 PM	39124
Surr: DNOP	70.4	70-130		%Rec	1	7/11/2018 6:55:56 PM	39124
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/10/2018 1:05:43 PM	39103
Surr: BFB	93.3	15-316		%Rec	1	7/10/2018 1:05:43 PM	39103
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.096		mg/Kg	1	7/10/2018 1:05:43 PM	39103
Benzene	ND	0.024		mg/Kg	1	7/10/2018 1:05:43 PM	39103
Toluene	ND	0.048		mg/Kg	1	7/10/2018 1:05:43 PM	39103
Ethylbenzene	ND	0.048		mg/Kg	1	7/10/2018 1:05:43 PM	39103
Xylenes, Total	ND	0.096		mg/Kg	1	7/10/2018 1:05:43 PM	39103
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/10/2018 1:05:43 PM	39103

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1807268**

Date Reported: **7/17/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: SW-2

Project: Antelope Ridge

Collection Date: 7/3/2018 1:05:00 PM

Lab ID: 1807268-018

Matrix: SOIL

Received Date: 7/7/2018 10:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	40	30		mg/Kg	20	7/12/2018 4:21:49 PM	39174

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1807268

17-Jul-18

Client: Souder, Miller & Associates

Project: Antelope Ridge

Sample ID	MB-39174		SampType:	mblk		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS		Batch ID:	39174		RunNo:	52645				
Prep Date:	7/12/2018		Analysis Date:	7/12/2018		SeqNo:	1729031		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	ND	1.5									

Sample ID	LCS-39174		SampType: lcs		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 39174		RunNo: 52645					
Prep Date:	7/12/2018		Analysis Date: 7/12/2018		SeqNo: 1729032		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.5	90	110			

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#: 1807268

17-Jul-18

Client: Souder, Miller & Associates

Project: Antelope Ridge

Sample ID	MB-39124		SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS		Batch ID:	39124		RunNo:	52615				
Prep Date:	7/10/2018		Analysis Date:	7/11/2018		SeqNo:	1727495		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	9.8		10.00		98.3	70	130				

Sample ID	LCS-39124		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 39124		RunNo: 52615					
Prep Date:	7/10/2018		Analysis Date: 7/11/2018		SeqNo: 1727497		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.2	70	130			
Surr: DNOP	4.9		5.000		97.2	70	130			

Sample ID	1807268-002AMS		SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	L1-3		Batch ID: 39124		RunNo: 52615					
Prep Date:	7/10/2018		Analysis Date: 7/11/2018		SeqNo: 1727499		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.10	0	107	62	120			
Surr: DNOP	4.6		5.010		91.2	70	130			

Sample ID	1807268-002AMSD		SampType:	MSD		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	L1-3		Batch ID:	39124		RunNo:	52615				
Prep Date:	7/10/2018		Analysis Date:	7/11/2018		SeqNo:	1727500		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	53	10	49.80	0	106	62	120	1.22	20		
Surr: DNOP	5.1		4.980		101	70	130	0	0		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical 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#: 1807268

17-Jul-18

Client: Souder, Miller & Associates

Project: Antelope Ridge

Sample ID	MB-39103		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 39103		RunNo: 52591					
Prep Date:	7/9/2018		Analysis Date: 7/10/2018		SeqNo: 1725737		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.0	15	316			

Sample ID	LCS-39103		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 39103		RunNo: 52591					
Prep Date:	7/9/2018		Analysis Date: 7/10/2018		SeqNo: 1725738		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	110	75.9	131			
Surr: BFB	1000		1000		102	15	316			

Sample ID	1807268-002AMS		SampType: MS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	L1-3		Batch ID: 39103		RunNo: 52591					
Prep Date:	7/9/2018		Analysis Date: 7/10/2018		SeqNo: 1725740		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	34	4.8	24.06	0	141	77.8	128			S
Surr: BFB	1000		962.5		105	15	316			

Sample ID	1807268-002AMSD		SampType:	MSD		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	L1-3		Batch ID:	39103		RunNo:	52591				
Prep Date:	7/9/2018		Analysis Date:	7/10/2018		SeqNo:	1725741		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	30	4.8	24.02	0	126	77.8	128	11.5	20		
Surr: BFB	1000		960.6		106	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1807268

17-Jul-18

Client: Souder, Miller & Associates

Project: Antelope Ridge

Sample ID MB-39103	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 39103		RunNo: 52591							
Prep Date: 7/9/2018	Analysis Date: 7/10/2018		SeqNo: 1725764		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID LCS-39103	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 39103		RunNo: 52591							
Prep Date: 7/9/2018	Analysis Date: 7/10/2018		SeqNo: 1725765		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.90	0.10	1.000	0	90.4	70.1	121			
Benzene	0.97	0.025	1.000	0	96.8	77.3	128			
Toluene	1.0	0.050	1.000	0	100	79.2	125			
Ethylbenzene	0.98	0.050	1.000	0	98.0	80.7	127			
Xylenes, Total	3.0	0.10	3.000	0	100	81.6	129			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID 1807268-003AMS	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: L1-7	Batch ID: 39103		RunNo: 52591							
Prep Date: 7/9/2018	Analysis Date: 7/10/2018		SeqNo: 1725768		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.92	0.097	0.9728	0	94.9	56.9	130			
Benzene	1.0	0.024	0.9728	0	103	68.5	133			
Toluene	1.0	0.049	0.9728	0	106	75	130			
Ethylbenzene	1.0	0.049	0.9728	0	106	79.4	128			
Xylenes, Total	3.1	0.097	2.918	0	108	77.3	131			
Surr: 4-Bromofluorobenzene	1.0		0.9728		106	80	120			

Sample ID 1807268-003AMSD	SampType: MSD		TestCode: EPA Method 8021B: Volatiles							
Client ID: L1-7	Batch ID: 39103		RunNo: 52591							
Prep Date: 7/9/2018	Analysis Date: 7/10/2018		SeqNo: 1725769		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.1	0.098	0.9823	0	107	56.9	130	13.3	20	
Benzene	1.1	0.025	0.9823	0	116	68.5	133	13.2	20	
Toluene	1.2	0.049	0.9823	0	120	75	130	13.0	20	
Ethylbenzene	1.2	0.049	0.9823	0	120	79.4	128	13.3	20	

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#: 1807268

17-Jul-18

Client: Souder, Miller & Associates

Project: Antelope Ridge

Sample ID	1807268-003AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	L1-7	Batch ID:	39103	RunNo:	52591					
Prep Date:	7/9/2018	Analysis Date:	7/10/2018	SeqNo:	1725769	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	3.6	0.098	2.947	0	122	77.3	131	13.4	20	
Surr: 4-Bromofluorobenzene	1.0		0.9823		104	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: 1807268

RcptNo: 1

Received By: Anne Thorne 7/7/2018 10:50:00 AM

Completed By: Isaiah Ortiz 7/9/2018 7:34:53 AM

Reviewed By: IO

7/9/18

Anne Thorne
IO

LB: ENM 7/9/18

Chain of Custody

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

Log In

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

of preserved
bottles checked
for pH: 7/9/18
(2 or >2 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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.8	Good	Yes			
2	13.1	Good	Yes			

