



March 21, 2018

#5E25868-BG22

NMOCD District II  
Mike Bratcher  
811 S. First St.  
Artesia, NM 88210

SUBJECT: SOIL REMEDIATION WORK PLAN FOR THE INCIDENTS 2RP-4425 & 2RP-4531, AT THE JULIE #2 BATTERY, EDDY COUNTY, NEW MEXICO

Dear Mr. Bratcher,

On behalf of EOG Resources (EOG), Souder, Miller & Associates (SMA) has prepared this WORK PLAN that describes the assessment, initial delineation and proposed remediation for a release associated with the Julie #2 Battery release. The site is in UNIT N, SECTION 8, TOWNSHIP 19S, RANGE 25E, Eddy County, New Mexico, on private land. Figure 1 illustrates the vicinity and location of the site. Table 1 summarizes release information.

Table 1: Release information and Site Ranking	
Name	Julie #2 Battery
Company	EOG Resources
RP Number	2RP-4425; 2RP-4531
API Number	30-015-25905
Location	32.67018° -104.50915°
Estimated Date of Release	5/5/17 AM (2RP-4425) 12/10/17 PM (2RP-4531)
Date Reported to NMOCD	Non-Reportable (2RP-4425) 12/11/17 PM (2RP-4531)
Land Owner	Private
Reported To	Mike Bratcher
Source of Release	Check Valve
Released Material	Produced Water
Released Volume	5 bbl. (2RP-4425) 60 bbl. (2RP-4531)
Recovered Volume	2 bbl. (2RP-4425) 50 bbl. (2RP-4531)
Net Release	3 bbl. (2RP-4425) 10 bbl. (2RP-4531)
Nearest Waterway	0.42 Miles North of Four Mile Draw
Depth to Groundwater	Estimated to be greater than 100'
Nearest Domestic Water Source	Less than 1,000 feet (Four Mile Draw)
NMOCD Ranking	10
SMA Response Dates	11/20/17

## **1.0 Background**

In the case of both 2RP-4425 and 2RP-4531, the source of the releases was a malfunctioning check valve on the produced water line, which led to the release of produced water outside of the battery's northern berm. Following the release, a vacuum truck was called to recover standing fluid and a backhoe was dispatched to excavate impacted soils. The release area had been excavated from 1 foot to 4 feet below ground surface (bgs) after the May 2017 release. On December 10, 2017 when the second release occurred, it stayed within the previously excavated area.

## **2.0 Site Ranking and Land Jurisdiction**

The release site is located approximately 0.43 miles North of Four Mile Draw, with an elevation of approximately 3,564 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. Eighteen wells are located within a three-mile radius of the site and there are no wells located within 1000 feet. After evaluating the site using aerial photography and topographic maps, depth to groundwater is estimated to be 110 feet 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.

<b>Soil Remediation Standards</b>	<b>0 to 9</b>	<b>10 to 19</b>	<b>&gt;19</b>
<b>Benzene</b>	<b>10 PPM</b>	<b>10 PPM</b>	<b>10 PPM</b>
<b>BTEX</b>	<b>50 PPM</b>	<b>50 PPM</b>	<b>50 PPM</b>
<b>TPH</b>	<b>5000 PPM</b>	<b>1000 PPM</b>	<b>100 PPM</b>

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

### **3.0 Release Characterization**

On January 8, after receiving 811 clearance, SMA field personnel assessed the release area. The impacted area was approximately 50 feet by 70 feet. Three locations (L1-L3) were delineated to the extent possible with a backhoe. Soil samples were field-screened using an EC meter and collected to characterize and delineate the release.

On February 20 and 21, 2018, after receiving 811 clearance, SMA field personnel returned to further assess the release area. Soil samples were collected using an air rotary drilling rig, field-screened using an EC meter, and analyzed to characterize and delineate the release. A total of two boreholes were drilled, BH1 was advanced to 25 feet bgs, while BH2 was advanced to 60 ft bgs. BH1, located between L3 and L2, was advanced to evaluate lateral movement. BH2, which was located in the same area as L2, served to further characterize the vertical extent of that area. The areas of L1 and L3 were inaccessible due to existing infrastructure; therefore, further impacts to soil could not be further delineated.

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 analyses including chlorides by Method 300.0, volatile organics (BTEX) by Method 8021B, and MRO, DRO, and GRO by EPA Method 8015D. Sample locations are depicted on Figure 2. All field screening and laboratory results are summarized in Table 3. Laboratory reports are included in Appendix C.

### **4.0 Soil Remediation Workplan**

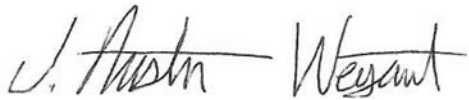
SMA will begin the excavation of affected soils, with approval from area utilities owners via 811 and NMOCD. SMA will continuously guide the excavation activities by collecting composite soil samples for field screening with a mobile titration unit (EPA 4500). Excavation will occur to depths of 4 feet bgs throughout the entire affected area as shown in Figure 2. A plastic 40 mil liner will be placed in the open excavation at 4 feet, and a minimum of 6 sidewall samples will be collected and field screened for chloride impact. Contaminated soil will be removed and replaced with clean backfill material to return the surface to previous contours. The contaminated soil will be transported for proper disposal at Lea Land, near Carlsbad, NM, an NMOCD permitted disposal facility.

## 5.0 Scope and Limitations

The scope of our services consisted of the performing assessment sampling, verifying release stabilization, regulatory liaison, and preparing this work plan. Work will be 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

A handwritten signature in blue ink that reads "Austin Weyant".

Austin Weyant  
Project Scientist

Reviewed by:

A handwritten signature in blue ink that reads "R. Jay Vanlandingham".

R. Jay Vanlandingham, R.G.  
Senior Geoscientist

## ATTACHMENTS:

### Figures:

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

### Tables:

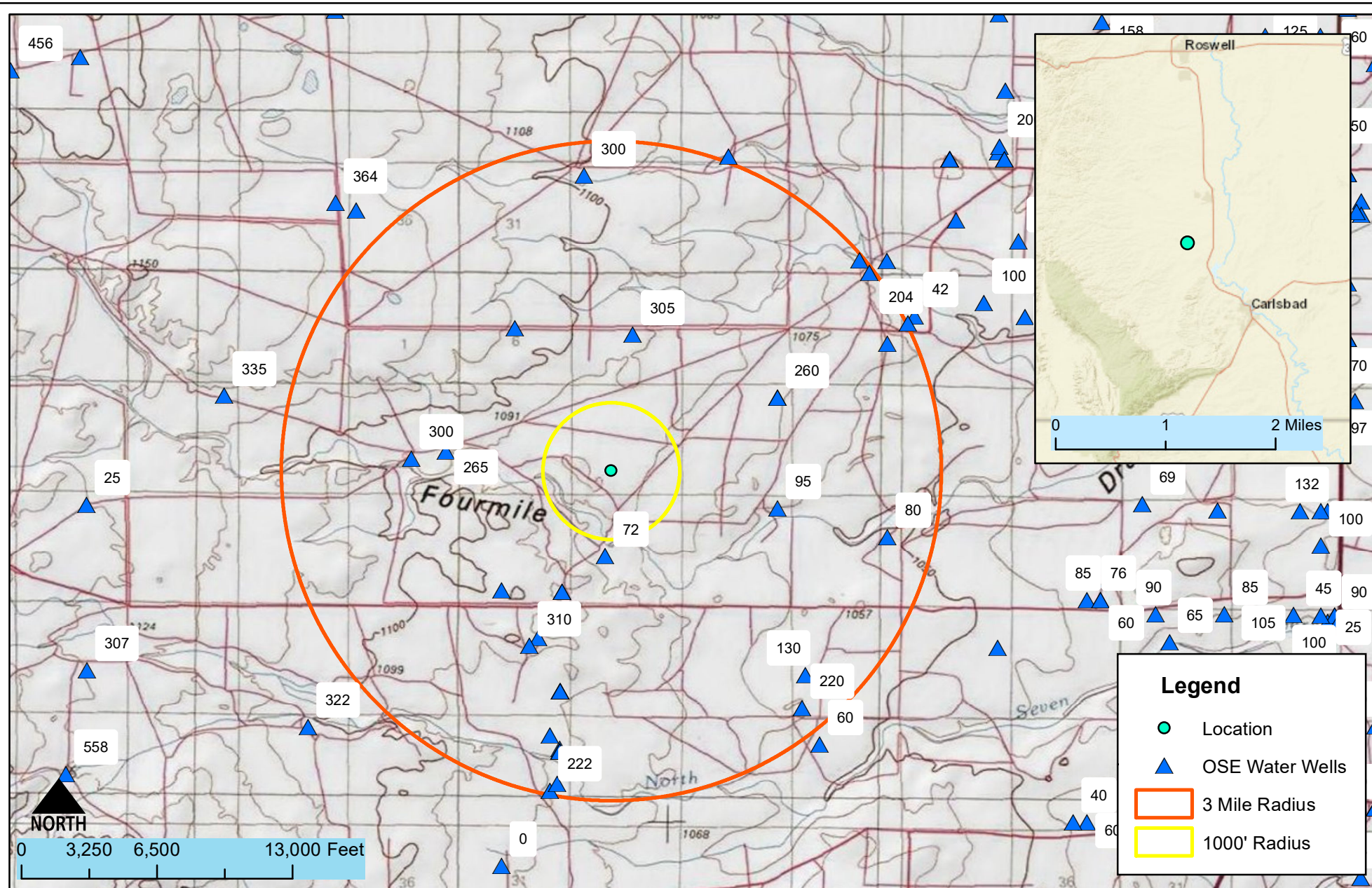
Table 3: Summary of Sample Results

### Appendices:

Appendix A: Form C141 Initial and Final  
Appendix B: NMOSE Wells Report  
Appendix C: Laboratory Analytical Reports

FIGURE 1  
VICINITY AND NMOSE  
DATA MAP





Vicinity and Well Head Protection Map  
Julie #2 Battery- EOG  
Howell Ranch, NM

Figure 1

Date Saved:  
12/29/2017

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

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Drawn	<b>Melodie Sanjari</b>
Checked	_____
Approved	_____



201 South Halaguena Street  
Carlsbad, New Mexico 88221  
(575) 689-7040  
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**FIGURE 2**  
**SITE AND SAMPLE**  
**LOCATION MAP**



Site and Sample Location Map  
Julie #2 Battery- EOG  
Howell Ranch, NM

Figure 2

Date Saved:  
3/8/2018

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

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Drawn	<b>Melodie Sanjari</b>
Checked	_____
Approved	_____



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**TABLE 3**  
**SUMMARY SAMPLE RESULTS**

## Julie #2 Battery - Summary of Sample Results

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) New	Cl- Laboratory mg/Kg
NMOCD RRAL's for Site Ranking 10				50 mg/Kg	10 mg/Kg				1000 mg/Kg		
L1	1/8/2018	3	excavate	<0.095	<0.024	<4.8	110	73	183	16427	18000
	1/8/2018	5	in-situ	--	--	--	--	--	--	4347	6100
	1/8/2018	9	in-situ	--	--	--	--	--	--	4794	5300
	1/8/2018	13	in-situ	--	--	--	--	--	--	1590	1600
	1/8/2018	17	in-situ	--	--	--	--	--	--	--	1900
	1/8/2018	19	in-situ	--	--	--	--	--	--	--	930
L2	1/8/2018	1	excavate	<0.093	<0.023	<4.6	<9.8	<49	<49	17509	23000
	1/8/2018	3	excavate	--	--	--	--	--	--	14522	--
	1/8/2018	5	in-situ	--	--	--	--	--	--	--	13000
	1/8/2018	7	in-situ	--	--	--	--	--	--	--	7900
	1/8/2018	11	in-situ	--	--	--	--	--	--	2637	3300
	1/8/2018	13	in-situ	--	--	--	--	--	--	1376	2200
L3	1/8/2018	15	in-situ	--	--	--	--	--	--	459	1000
	1/8/2018	1.5	excavate	<0.099	<0.025	<4.9	18	<50	18	10449	13000
	1/8/2018	3.5	excavate	--	--	--	--	--	--	8313	7400
	1/8/2018	5.5	in-situ	--	--	--	--	--	--	473	240
	1/8/2018	7.5	in-situ	--	--	--	--	--	--	1018	910
	1/8/2018	9.5	in-situ	--	--	--	--	--	--	--	2800
	1/8/2018	17.5	in-situ	--	--	--	--	--	--	--	1400
BH1	1/8/2018	19.5	in-situ	--	--	--	--	--	--	2571	2000
	2/20/2018	15	in-situ	--	--	--	--	--	--	--	250
	2/20/2018	20	in-situ	--	--	--	--	--	--	--	350
BH2	2/20/2018	25	in-situ	--	--	--	--	--	--	--	130
	2/21/2018	Surface	excavate	--	--	--	--	--	--	--	28000
	2/21/2018	5	in-situ	--	--	--	--	--	--	6006	7800
	2/21/2018	10	in-situ	--	--	--	--	--	--	--	4100
	2/21/2018	15	in-situ	--	--	--	--	--	--	--	2900
	2/21/2018	20	in-situ	--	--	--	--	--	--	752	1000
	2/21/2018	25	in-situ	<0.23	<0.023	<4.7	<9.3	<46	<62	<132	91
	2/21/2018	30	in-situ	--	--	--	--	--	--	<132	<30
	2/21/2018	35	in-situ	--	--	--	--	--	--	<132	<30
	2/21/2018	40	in-situ	--	--	--	--	--	--	<132	<30
	2/21/2018	50	in-situ	--	--	--	--	--	--	<132	<30
	2/21/2018	60	in-situ	--	--	--	--	--	--	<132	<30

orange line denotes liner placement

to be excavated

"--" = 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

# NM OIL CONSERVATION

ARTESIA DISTRICT

MAY 23 2017

Form C-141  
Revised August 8, 2011

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

RECEIVED

## Release Notification and Corrective Action

*nAB1714648527*

OPERATOR		<input checked="" type="checkbox"/> Initial Report	<input type="checkbox"/> Final Report
Name of Company EOG Y Resources, Inc.	OGRID Number 25575	Contact Robert Asher	New forms can be found in the New Mexico State Website in forms: <a href="http://www.emnrd.state.nm.us/OCD/forms.html">http://www.emnrd.state.nm.us/ OCD/forms.html</a>
Address 104 S. 4 <sup>th</sup> Street	Telephone No. 575-748-1471	Facility Name Julie #2 Battery	
Facility Type Battery			
Surface Owner Fee	Mineral Owner Fee	API No. <i>30 D15-25905</i>	

## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	8	19S	25E	660	South	1980	West	Eddy

Latitude 32.67042 Longitude 104.50895

## NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 5 B/PW	Volume Recovered 2 B/PW
Source of Release Check Valve	Date and Hour of Occurrence 5/5/2017; AM	Date and Hour of Discovery 5/5/2017; AM
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour N/A	
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 check valve failed, causing the release. Vacuum truck(s) and roustabout crews were called.

Describe Area Affected and Cleanup Action Taken.\*

An approximate area of 40'X 30'. Release was on the west side of the battery. The valves were closed, vacuum trucks were called and a roustabout crew was called to make repairs. Vertical and horizontal delineation samples will be taken and analysis ran for TPH & BTEX. If initial analytical results for TPH & BTEX are under RRAL's (site ranking is 10) a Final Report, C-141 will be submitted to the OCD requesting closure. If the analytical results are above the RRAL's a work plan will be submitted to the OCD. **Depth to Ground Water: 50-99' (approximately 72', Section 17, T19S-R25E, per the NMOSE), Wellhead Protection Area: No, Distance to Surface Water Body: >1000', SITE RANKING IS 10.**

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.

OIL CONSERVATION DIVISION	
Signature: <i>Robert Asher</i>	Signed By: <i>Robert Asher</i>
Printed Name: Robert Asher	Approved by Environmental Specialist
Title: Environmental Supervisor	Approval Date: <i>5/26/17</i> Expiration Date: <i>N/A</i>
E-mail Address: Robert.Asher@eogresources.com	Conditions of Approval:
Date: May 23, 2017 Phone: 575-748-4217	<i>2RP- See attached</i>
Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

2RP-4225

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 5/23/2017 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number ARP 4225 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 6/23/2017. 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

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

DEC 19 2017

Form C-141  
Revised April 3, 2017

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

**Release Notification and Corrective Action**  
**OPERATOR**

☒ Initial Report ☐ Final Report

Name of Company EOG Y Resources, Inc.	Contact Chase Settle
Address 104 S. 4 <sup>th</sup> Street Artesia NM 88210	Telephone No. 575-748-1471
Facility Name Julie #2 Battery	Facility Type Battery

Surface Owner Private	Mineral Owner Private	API No. 30-015-25905
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**LOCATION OF RELEASE**

Unit Letter N	Section 8	Township 19S	Range 25E	Feet from the 660	North/South Line South	Feet from the 1980	East/West Line West	County Eddy
------------------	--------------	-----------------	--------------	----------------------	---------------------------	-----------------------	------------------------	----------------

Latitude 32.67018 Longitude -104.50915 NAD83

**NATURE OF RELEASE**

Type of Release Produced Water	Volume of Release 60 B/PW	Volume Recovered 50 B/PW
Source of Release Check valve on produced water transfer line	Date and Hour of Occurrence 12/10/2017; PM	Date and Hour of Discovery 12/10/2017; 12:10 PM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher, Crystal Weaver	
By Whom? Robert Asher	Date and Hour December 11, 2017; 4:19 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

Describe Cause of Problem and Remedial Action Taken.\*  
There was a failure of a check valve on a produced water transfer line, which led to the release of produced water. A vacuum truck was called to recover standing fluid and a backhoe was dispatched to excavate impacted soils.

Describe Area Affected and Cleanup Action Taken.\*  
The impacted area was approximately 50 feet by 70 feet outside of the battery berm on the north side of the battery. Vertical and horizontal delineation samples will be taken and analysis ran for TPH & BTEX (chlorides for documentation). If initial analytical results for TPH & BTEX are under RRAL's (site ranking is 0) a Final Report, C-141 will be submitted to the OCD requesting closure. If the analytical results are above the RRAL's a work plan will be submitted to the OCD. **Depth to Ground Water: >100' (110', Section 8, T19S, R25E, per NMOSE, USGS), Wellhead Protection Area: No, Distance to Surface Water Body: >1000', SITE RANKING IS 0.**

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: <u>Chase Settle</u>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Chase Settle	Approved by Environmental Specialist: <u>Accepted for record only</u>	
Title: Rep Safety & Environmental II	Approval Date: <u>12/26/17</u>	Expiration Date: <u>N/A</u>
E-mail Address: chase_settle@eogresources.com	Conditions of Approval: <u>See attached</u>	Attached <input checked="" type="checkbox"/> <u>2RP-4531</u>
Date: December 19, 2017	Phone: 575-748-4171	

\* Attach Additional Sheets If Necessary

12/22/17 AB

Operator/Responsible Party,

The OCD has received the form C-141 you provided on **12/19/17** regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number ARD-4531 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 II office in Artesia on or before 1/19/18. 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](mailto:jim.griswold@state.nm.us)

# 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
<a href="#">RA 06418</a>			ED	1	2	3	17	19S	25E	545925	3613710*	1124	120	72	48
<a href="#">RA 05331</a>			ED	1	1	4	05	19S	25E	546308	3616955*	2143	460	305	155
<a href="#">RA 04426</a>			CH		4	3	18	19S	25E	544412	3613201*	2291	715		
<a href="#">RA 05900</a>			ED		2	2	16	19S	25E	548442	3614424*	2452	185	95	90
<a href="#">RA 03959</a>			ED		2	4	12	19S	24E	543589	3615225*	2466	545	265	280
<a href="#">RA 11654 POD1</a>			ED		3	2	19	19S	25E	544959	3612514	2548	500		
<a href="#">RA 05333</a>			ED		2	2	09	19S	25E	548430	3616046*	2696	315	260	55
<a href="#">RA 04726</a>			ED		3	2	19	19S	25E	544825	3612390*	2718	390	310	80
<a href="#">RA 06436</a>			ED	3	1	4	12	19S	24E	543083	3615122*	2954		300	
<a href="#">RA 12222 POD1</a>			ED	2	4	2	30	19S	25E	545284	3610884	4015			
<a href="#">RA 02909</a>			ED		1	3	22	19S	25E	548864	3611989*	4017	188	130	58
<a href="#">RA 05450</a>			CH		4	2	15	19S	25E	550057	3614015*	4115	204	80	124
<a href="#">RA 08986</a>			ED	1	3	3	22	19S	25E	548825	3611507	4346	320	220	100
<a href="#">RA 04335</a>			CH		1	1	32	18S	25E	545580	3619275*	4466	400	300	100
<a href="#">RA 04208</a>			ED		2	4	03	19S	25E	550036	3616845*	4490	110		
<a href="#">RA 03942</a>			ED	3	2	4	30	19S	25E	545141	3610277*	4638	270	222	48
<a href="#">RA 04236</a>			CH	3	3	1	02	19S	25E	550335	3617145*	4893	360	204	156
<a href="#">RA 03304</a>			ED			1	27	19S	25E	549081	3610973*	4922	130	60	70

Average Depth to Water: **201 feet**

Minimum Depth: **60 feet**

Maximum Depth: **310 feet**

Record Count: 18

**UTMNAD83 Radius Search (in meters):**

**Easting (X):** 546023.24

**Northing (Y):** 3614830.45

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

January 22, 2018

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

RE: Julie 2 Battery

OrderNo.: 1801498

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 20 sample(s) on 1/10/2018 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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L1-3

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 9:30:00 AM

**Lab ID:** 1801498-001

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	18000	1500		mg/Kg	1E	1/17/2018 10:06:08 AM	36058
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	110	9.6		mg/Kg	1	1/12/2018 12:57:23 PM	35974
Motor Oil Range Organics (MRO)	73	48		mg/Kg	1	1/12/2018 12:57:23 PM	35974
Surr: DNOP	100	70-130		%Rec	1	1/12/2018 12:57:23 PM	35974
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/11/2018 7:02:59 PM	35957
Surr: BFB	91.0	15-316		%Rec	1	1/11/2018 7:02:59 PM	35957
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	1/11/2018 7:02:59 PM	35957
Benzene	ND	0.024		mg/Kg	1	1/11/2018 7:02:59 PM	35957
Toluene	ND	0.048		mg/Kg	1	1/11/2018 7:02:59 PM	35957
Ethylbenzene	ND	0.048		mg/Kg	1	1/11/2018 7:02:59 PM	35957
Xylenes, Total	ND	0.095		mg/Kg	1	1/11/2018 7:02:59 PM	35957
Surr: 4-Bromofluorobenzene	87.2	80-120		%Rec	1	1/11/2018 7:02:59 PM	35957

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L1-5

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 8:58:00 AM

**Lab ID:** 1801498-002

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	6100	300		mg/Kg	200	1/17/2018 10:18:33 AM	36058

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



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L1-9

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 9:08:00 AM

**Lab ID:** 1801498-003

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	5300	300		mg/Kg	200	1/17/2018 10:30:58 AM	36058

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L1-13

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 9:18:00 AM

**Lab ID:** 1801498-004

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CJS</b>	
Chloride	1600	75		mg/Kg	50	1/17/2018 10:43:22 AM	36058

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L1-17

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 9:36:00 AM

**Lab ID:** 1801498-005

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	1900		75	mg/Kg	50	1/17/2018 10:55:47 AM	36058

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L1-19

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 9:47:00 AM

**Lab ID:** 1801498-006

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	930	30		mg/Kg	20	1/16/2018 8:10:26 PM	36058

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L2-1

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 9:55:00 AM

**Lab ID:** 1801498-007

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	23000	750		mg/Kg	500	1/18/2018 12:21:44 PM	36058
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/12/2018 1:24:52 PM	35974
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/12/2018 1:24:52 PM	35974
Surr: DNOP	99.4	70-130		%Rec	1	1/12/2018 1:24:52 PM	35974
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/11/2018 8:58:40 PM	35957
Surr: BFB	80.3	15-316		%Rec	1	1/11/2018 8:58:40 PM	35957
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.093		mg/Kg	1	1/11/2018 8:58:40 PM	35957
Benzene	ND	0.023		mg/Kg	1	1/11/2018 8:58:40 PM	35957
Toluene	ND	0.046		mg/Kg	1	1/11/2018 8:58:40 PM	35957
Ethylbenzene	ND	0.046		mg/Kg	1	1/11/2018 8:58:40 PM	35957
Xylenes, Total	ND	0.093		mg/Kg	1	1/11/2018 8:58:40 PM	35957
Surr: 4-Bromofluorobenzene	92.2	80-120		%Rec	1	1/11/2018 8:58:40 PM	35957

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



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L2-5

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 10:08:00 AM

**Lab ID:** 1801498-008

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>CJS</b>	
Chloride	13000	750		mg/Kg	500	1/17/2018 11:20:37 AM	36058

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L2-7

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 10:10:00 AM

**Lab ID:** 1801498-009

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	7900	750		mg/Kg	500	1/17/2018 11:33:02 AM	36058

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L2-11

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 10:15:00 AM

**Lab ID:** 1801498-010

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	3300	150		mg/Kg	100	1/17/2018 11:45:27 AM	36058

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L2-13

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 10:21:00 AM

**Lab ID:** 1801498-011

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	2200	150		mg/Kg	100	1/17/2018 11:57:51 AM	36058

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L2-15

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 10:30:00 AM

**Lab ID:** 1801498-012

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	1000	75		mg/Kg	50	1/17/2018 12:35:05 PM	36058

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L3-1.5

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 1:07:00 PM

**Lab ID:** 1801498-013

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	13000	750		mg/Kg	500	1/17/2018 12:47:30 PM	36058
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	18	10		mg/Kg	1	1/12/2018 1:51:26 PM	35974
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/12/2018 1:51:26 PM	35974
Surr: DNOP	101	70-130		%Rec	1	1/12/2018 1:51:26 PM	35974
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/11/2018 9:21:45 PM	35957
Surr: BFB	84.8	15-316		%Rec	1	1/11/2018 9:21:45 PM	35957
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	1/11/2018 9:21:45 PM	35957
Benzene	ND	0.025		mg/Kg	1	1/11/2018 9:21:45 PM	35957
Toluene	ND	0.049		mg/Kg	1	1/11/2018 9:21:45 PM	35957
Ethylbenzene	ND	0.049		mg/Kg	1	1/11/2018 9:21:45 PM	35957
Xylenes, Total	ND	0.099		mg/Kg	1	1/11/2018 9:21:45 PM	35957
Surr: 4-Bromofluorobenzene	91.0	80-120		%Rec	1	1/11/2018 9:21:45 PM	35957

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L3-3.5

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 12:59:00 PM

**Lab ID:** 1801498-014

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	7400	750		mg/Kg	500	1/17/2018 12:59:55 PM	36058

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L3-5.5

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 1:02:00 PM

**Lab ID:** 1801498-015

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	240	30		mg/Kg	20	1/16/2018 10:26:59 PM	36058

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



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L3-7.5

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 1:05:00 PM

**Lab ID:** 1801498-016

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	910	30		mg/Kg	20	1/16/2018 10:39:24 PM	36058

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L3-9.5

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 1:07:00 PM

**Lab ID:** 1801498-017

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	2800	150		mg/Kg	100	1/17/2018 1:12:19 PM	36058

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L3-13.5

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 1:22:00 PM

**Lab ID:** 1801498-018

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	4900	300		mg/Kg	200	1/17/2018 1:24:44 PM	36058

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L3-17.5

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 1:32:00 PM

**Lab ID:** 1801498-019

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	1400		75	mg/Kg	50	1/17/2018 1:37:08 PM	36058

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1801498**

Date Reported: **1/22/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** L3-19.5

**Project:** Julie 2 Battery

**Collection Date:** 1/8/2018 1:47:00 PM

**Lab ID:** 1801498-020

**Matrix:** SOIL

**Received Date:** 1/10/2018 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	2000	75		mg/Kg	50	1/17/2018 1:49:33 PM	36058

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1801498

22-Jan-18

Client: Souder, Miller &amp; Associates

Project: Julie 2 Battery

Sample ID	MB-36058		SampType: mblk		TestCode: EPA Method 300.0: Anions					
Client ID:	PBS		Batch ID: 36058		RunNo: 48500					
Prep Date:	1/16/2018		Analysis Date: 1/16/2018		SeqNo: 1559132		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-36058		SampType: lcs		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 36058		RunNo: 48500					
Prep Date:	1/16/2018		Analysis Date: 1/16/2018		SeqNo: 1559133		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.7	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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1801498

22-Jan-18

Client: Souder, Miller &amp; Associates

Project: Julie 2 Battery

Sample ID	LCS-35974		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 35974		RunNo: 48391					
Prep Date:	1/11/2018		Analysis Date: 1/12/2018		SeqNo: 1555000		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.4	70	130			
Surr: DNOP	4.4		5.000		87.8	70	130			

Sample ID	MB-35974		SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS		Batch ID:	35974		RunNo:	48391				
Prep Date:	1/11/2018		Analysis Date:	1/12/2018		SeqNo:	1555001		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	ND	10									
Motor Oil Range Organics (MRO)	ND	50									
Surr: DNOP	9.1		10.00		91.2	70	130				

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical 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#: 1801498

22-Jan-18

Client: Souder, Miller &amp; Associates

Project: Julie 2 Battery

Sample ID	MB-35957		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 35957		RunNo: 48383					
Prep Date:	1/10/2018		Analysis Date: 1/11/2018		SeqNo: 1554676		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	830		1000		83.5	15	316			

Sample ID	LCS-35957		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 35957		RunNo: 48383					
Prep Date:	1/10/2018		Analysis Date: 1/11/2018		SeqNo: 1554677		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	102	75.9	131			
Surr: BFB	910		1000		90.9	15	316			

### 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#: 1801498

22-Jan-18

Client: Souder, Miller &amp; Associates

Project: Julie 2 Battery

Sample ID	MB-35957		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 35957		RunNo: 48383					
Prep Date:	1/10/2018		Analysis Date: 1/11/2018		SeqNo: 1554702		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	0.93		1.000		92.8	80	120			

Sample ID	LCS-35957		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 35957		RunNo: 48383					
Prep Date:	1/10/2018		Analysis Date: 1/11/2018		SeqNo: 1554703		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.84	0.10	1.000	0	84.0	70.1	121			
Benzene	0.96	0.025	1.000	0	96.1	77.3	128			
Toluene	0.98	0.050	1.000	0	98.3	79.2	125			
Ethylbenzene	0.99	0.050	1.000	0	98.7	80.7	127			
Xylenes, Total	3.0	0.10	3.000	0	99.9	81.6	129			
Surr: 4-Bromofluorobenzene	0.92		1.000		92.4	80	120			

### Qualifiers:

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



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: 1801498

RcptNo: 1

Received By: Isaiah Ortiz 1/10/2018 9:25:00 AM

*Isaiah Ortiz*

Completed By: Sophia Campuzano 1/10/2018 9:56:47 AM

*Sophia Campuzano*

Reviewed By: DDS 1/10/18

### 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  $6.0^{\circ}\text{C}$ ? 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:

(<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: ☐ 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	0.8	Good	Yes			



# Chain-of-Custody Record

Client: SMA C-bud

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 days from  
☐ Standard ☐ Rush

Project Name:

Julie Battery #2

Project #:

Project Manager:

Austin Weyant

Sampler: HWS/MLB

On Ice: ☒ Yes ☐ No

Sample Temperature: 0.3 to 0.5 (F) 0.4

Container Type and #

Preservative Type

HEAL No.

1801498

402

-013

-014

-015

-016

-017

-018

-019

-020

Date

Time

Matrix

Sample Request ID

1/8/18 1:07

1:07

1:02

1:05

1:07

1:22

1:32

1:47

63-1.5

63-3.5

63-5.5

63-7.5

63-9.5

63-11.5

63-13.5

63-15.5

63-17.5

63-19.5

Date

Time

Relinquished by:

Relinquished by:

Relinquished by:

Received by:

Date

Time

Received by:

Date

Date

Time

Date

Time

Remarks:

Page 2 of 2 EOG



**HALL ENVIRONMENTAL  
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

BTEX + MTBE + TMBs (8021)	<input checked="" type="checkbox"/>
BTEX + MTBE + TPH (Gas only)	<input checked="" type="checkbox"/>
TPH 8015B (GRO / DRO / MRO)	<input checked="" type="checkbox"/>
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> )	<input checked="" type="checkbox"/>
8081 Pesticides / 8082 PCB's	
8260B (VOA)	
8270 (Semi-VOA)	
Air Bubbles (Y or N)	





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)

March 05, 2018

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

RE: Julie Battery

OrderNo.: 1802D00

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 14 sample(s) on 2/23/2018 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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order: 1802D00

Date Reported: 3/5/2018

**CLIENT:** Souder, Miller & Associates  
**Project:** Julie Battery

**Lab Order:** 1802D00

**Lab ID:** 1802D00-001 **Collection Date:** 2/20/2018 2:35:00 PM  
**Client Sample ID:** BH1-15' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b> Analyst: CJS							
Chloride	250	30		mg/Kg	20	2/28/2018 6:36:35 PM	36779

**Lab ID:** 1802D00-002 **Collection Date:** 2/20/2018 2:40:00 PM  
**Client Sample ID:** BH1-20' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b> Analyst: CJS							
Chloride	350	30		mg/Kg	20	2/28/2018 7:13:48 PM	36779

**Lab ID:** 1802D00-003 **Collection Date:** 2/20/2018 2:45:00 PM  
**Client Sample ID:** BH1-25' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b> Analyst: CJS							
Chloride	130	30		mg/Kg	20	2/28/2018 7:26:13 PM	36779

**Lab ID:** 1802D00-004 **Collection Date:** 2/21/2018 7:30:00 AM  
**Client Sample ID:** BH2-Surface **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b> Analyst: MRA							
Chloride	28000	1500		mg/Kg	1E	3/2/2018 12:51:42 PM	36779

**Lab ID:** 1802D00-005 **Collection Date:** 2/21/2018 8:26:00 AM  
**Client Sample ID:** BH2-5' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b> Analyst: MRA							
Chloride	7800	1500		mg/Kg	1E	3/4/2018 4:28:51 PM	36779

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

**Analytical Report**Lab Order: **1802D00**Date Reported: **3/5/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates  
**Project:** Julie Battery**Lab Order:** 1802D00**Lab ID:** 1802D00-006**Collection Date:** 2/21/2018 8:30:00 AM**Client Sample ID:** BH2-10'**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	4100	150		mg/Kg	100	3/2/2018 1:41:19 PM	36779

**Lab ID:** 1802D00-007**Collection Date:** 2/21/2018 8:40:00 AM**Client Sample ID:** BH2-15'**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	2900	150		mg/Kg	100	3/2/2018 1:53:43 PM	36779

**Lab ID:** 1802D00-008**Collection Date:** 2/21/2018 8:51:00 AM**Client Sample ID:** BH2-20'**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1000	30		mg/Kg	20	3/2/2018 2:06:08 PM	36779

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

# Analytical Report

Lab Order: 1802D00

Date Reported: 3/5/2018

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates  
**Project:** Julie Battery

**Lab Order:** 1802D00

**Lab ID:** 1802D00-009

**Collection Date:** 2/21/2018 9:01:00 AM

**Client Sample ID:** BH2-25'

**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	91	30		mg/Kg	20	3/2/2018 2:18:33 PM	36779
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	2/27/2018 7:06:22 PM	36722
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	2/27/2018 7:06:22 PM	36722
Surr: DNOP	86.2	70-130		%Rec	1	2/27/2018 7:06:22 PM	36722
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/26/2018 7:54:43 PM	36697
Surr: BFB	90.7	15-316		%Rec	1	2/26/2018 7:54:43 PM	36697
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.094		mg/Kg	1	2/26/2018 7:54:43 PM	36697
Benzene	ND	0.023		mg/Kg	1	2/26/2018 7:54:43 PM	36697
Toluene	ND	0.047		mg/Kg	1	2/26/2018 7:54:43 PM	36697
Ethylbenzene	ND	0.047		mg/Kg	1	2/26/2018 7:54:43 PM	36697
Xylenes, Total	ND	0.094		mg/Kg	1	2/26/2018 7:54:43 PM	36697
Surr: 4-Bromofluorobenzene	89.2	80-120		%Rec	1	2/26/2018 7:54:43 PM	36697

**Lab ID:** 1802D00-010

**Collection Date:** 2/21/2018 9:09:00 AM

**Client Sample ID:** BH2-30'

**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/2/2018 2:30:58 PM	36779

**Lab ID:** 1802D00-011

**Collection Date:** 2/21/2018 9:15:00 AM

**Client Sample ID:** BH2-35'

**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/2/2018 2:43:22 PM	36779

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	Page 3 of 8
	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: **1802D00**Date Reported: **3/5/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates  
**Project:** Julie Battery**Lab Order:** 1802D00**Lab ID:** 1802D00-012**Collection Date:** 2/21/2018 9:20:00 AM**Client Sample ID:** BH2-40'**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/2/2018 2:55:46 PM	36779

**Lab ID:** 1802D00-013**Collection Date:** 2/21/2018 9:36:00 AM**Client Sample ID:** BH2-50'**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/2/2018 3:08:11 PM	36779

**Lab ID:** 1802D00-014**Collection Date:** 2/21/2018 9:48:00 AM**Client Sample ID:** BH2-60'**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/2/2018 4:59:53 PM	36779

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
- 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#: 1802D00

05-Mar-18

Client: Souder, Miller &amp; Associates

Project: Julie Battery

Sample ID	MB-36779		SampType: mblk		TestCode: EPA Method 300.0: Anions					
Client ID:	PBS		Batch ID: 36779		RunNo: 49447					
Prep Date:	2/28/2018		Analysis Date: 2/28/2018		SeqNo: 1598355		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-36779		SampType: lcs		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 36779		RunNo: 49447					
Prep Date:	2/28/2018		Analysis Date: 2/28/2018		SeqNo: 1598356		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.8	90	110			

### Qualifiers:

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1802D00

05-Mar-18

Client: Souder, Miller &amp; Associates

Project: Julie Battery

Sample ID	LCS-36722		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 36722		RunNo: 49399					
Prep Date:	2/26/2018		Analysis Date: 2/27/2018		SeqNo: 1595181		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	84.7	70	130			
Surr: DNOP	4.3		5.000		86.7	70	130			

Sample ID	MB-36722		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 36722		RunNo: 49399					
Prep Date:	2/26/2018		Analysis Date: 2/27/2018		SeqNo: 1595182		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.7		10.00		87.1	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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1802D00

05-Mar-18

Client: Souder, Miller &amp; Associates

Project: Julie Battery

Sample ID	MB-36697		SampType:	MBLK		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	PBS		Batch ID:	36697		RunNo:	49378				
Prep Date:	2/23/2018		Analysis Date:	2/26/2018		SeqNo:	1594725		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	ND	5.0									
Surr: BFB	1000		1000		101	15	316				

Sample ID	LCS-36697		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 36697		RunNo: 49379					
Prep Date:	2/23/2018		Analysis Date: 2/26/2018		SeqNo: 1594780		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	84.2	75.9	131			
Surr: BFB	1000		1000		105	15	316			

### 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#: 1802D00

05-Mar-18

Client: Souder, Miller &amp; Associates

Project: Julie Battery

Sample ID	MB-36697		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 36697		RunNo: 49378					
Prep Date:	2/23/2018		Analysis Date: 2/26/2018		SeqNo: 1594752		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	0.99		1.000		99.2	80	120			

Sample ID	LCS-36697		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 36697		RunNo: 49378					
Prep Date:	2/23/2018		Analysis Date: 2/26/2018		SeqNo: 1594753		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.0	0.10	1.000	0	101	70.1	121			
Benzene	1.1	0.025	1.000	0	107	77.3	128			
Toluene	1.1	0.050	1.000	0	106	79.2	125			
Ethylbenzene	1.0	0.050	1.000	0	105	80.7	127			
Xylenes, Total	3.2	0.10	3.000	0	108	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

# Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1802D00

RcptNo: 1

Received By: Dennis Suazo

2/23/2018 9:35:00 AM

*Dennis Suazo*

Completed By: Ashley Gallegos

2/23/2018 12:06:47 PM

Reviewed By:

*ASG*

02/23/18

labeled by:

*ASG*
*see 02/23/18*

## 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  $6.0^{\circ}\text{C}$ ? 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:

## 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	2.5	Good	Yes			





## Turn-Around Time:

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, Br, NO <sub>3</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
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