



September 10, 2018

#5E25868-BG42

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

SUBJECT: Remediation Plan for the John AGU #1 Battery Release (2RP-4694), Eddy County, New Mexico

Dear Mr. Bratcher:

On behalf of EOG Resources (EOG), Souder, Miller & Associates (SMA) has prepared this Remediation Plan that describes the delineation and proposed remediation for a release of liquids related to oil and gas production activities at the John AGU#1 Battery site. The site is in Unit C, Section 14, Township 20S, Range 24E, Eddy County, New Mexico, on private land. Figure 1 illustrates the vicinity and site location on an USGS 7.5 minute quadrangle map.

Table 1 summarizes information regarding the release.

Table 1: Release Information and Closure Criteria			
Name	John AGU #1 Battery	Company	EOG Resources
API Number	fAB1810139472	Location	32.57897° -104.56104°
Incident Number	2RP-4694		
Estimated Date of Release	3/22/2018	Date Reported to NMOCD	4/6/2018
Land Owner	Private	Reported To	NMOCD District II
Source of Release	Discharge Line		
Released Volume	14 bbls	Released Material	Produced Water
Recovered Volume	12 bbls	Net Release	2 bbls
NMOCD Closure Criteria	51-100 feet to groundwater		
SMA Response Dates	7/3/2018		

1.0 Background

On March 22, 2018, a release was discovered at the John AGU #1 Battery site due to a failure in the discharge line on the water pump. Initial response activities were conducted by EOG, and included the recovery of twelve (12) bbls of the released produced water. Figure 1 illustrates the site vicinity and wellhead protection area, Figure 2 illustrates surface water and other ranking criteria within a 300-foot radius in the vicinity, and Figure 3 illustrates the site and sample locations. The initial C-141 form is included in Appendix A.

2.0 Site Information and Closure Criteria

The John AGU #1 Battery is located approximately twenty-two (22) miles northwest of Carlsbad, New Mexico on privately-owned land.

As summarized in Table 2 and illustrated in Figure 1, depth to groundwater in the area is estimated to be ninety (90) feet below grade surface (bgs). There is one (1) known water source within ½-mile of the location, according to the New Mexico Office of the State Engineer (NMOSE) online water well database (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed 7/2/2018). The nearest significant watercourse is a finger of the Middle Seven Rivers, located approximately 1,026 feet to the north

Based on the information presented herein, the applicable NMOCD Closure Criteria for this site is for groundwater depth of between 51-100 feet bgs. Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B.

3.0 Release Characterization Activities and Findings

An initial sampling event was conducted by EOG on March 27, 2018. A total of 6 sample locations (V1-V6) were investigated around the release site and throughout the visibly stained area to a maximum depth of 4 feet bgs.

On July 3, 2018, SMA personnel arrived onsite to continue the vertical delineation by collecting soil samples to a maximum depth of 10 feet bgs. A minimum of two samples were collected at each sampling location. A total of thirty-five (35) samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D. Table 3 itemizes the sample results as well as identifying any variances from the typical specification of two samples per boring. Locations for all samples are depicted on Figure 3. Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico (Appendix D).

Results indicate that all sample locations have met the Closure Criteria listed in Table 2; however, in order to achieve the reclamation requirements of 19.15.29.13 NMAC, chloride concentrations must be less than 600 mg/kg in the top four feet. None of the sample locations meet these criteria at this time.

4.0 Proposed Soil Remediation Work Plan

In order to achieve the reclamation requirements noted above, SMA proposes excavation and the installation of a clay liner, in the area illustrated in Figure 3. The impacted area will be excavated to approximately four (4) feet bgs for reclamation. Approximately 850 cubic yards of contaminated soil are projected to be removed and replaced with clean backfill material in order to return the surface to previous

contours. Before liner placement and backfill, we propose the collection of confirmation samples comprised of representative wall 5-point samples based on SW-846, 2002. This would require the collection of two sidewall samples on the both the north and south boundaries of the excavation and one sidewall sample on west and east boundaries. This also meets the requirements of NMOCD's alternative method for closure sampling as there is no area of linear sidewall collected that represent over 200 square feet. The contaminated soil will be transported for disposal at Lea Land, in Eddy County, NM, an NMOCD permitted disposal facility. Upon approval by NMOCD, the projected timeline for completion of remediation activities is approximately three to five days.

5.0 Scope and Limitations

The scope of our services included: assessment sampling; verifying release stabilization, regulatory liaison, and preparing this remediation 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

Reviewed by:



Melodie Sanjari
Staff Scientist

Shawna Chubbuck
Senior Scientist

ATTACHMENTS:

Figures:

Figure 1: Site Vicinity and Wellhead Protection Map

Figure 2: Surface Water Map

Figure 3: Site and Sample Location Map

Tables:

Table 2: NMOCD Closure Criteria Justification

Table 3: Summary of Sample Results

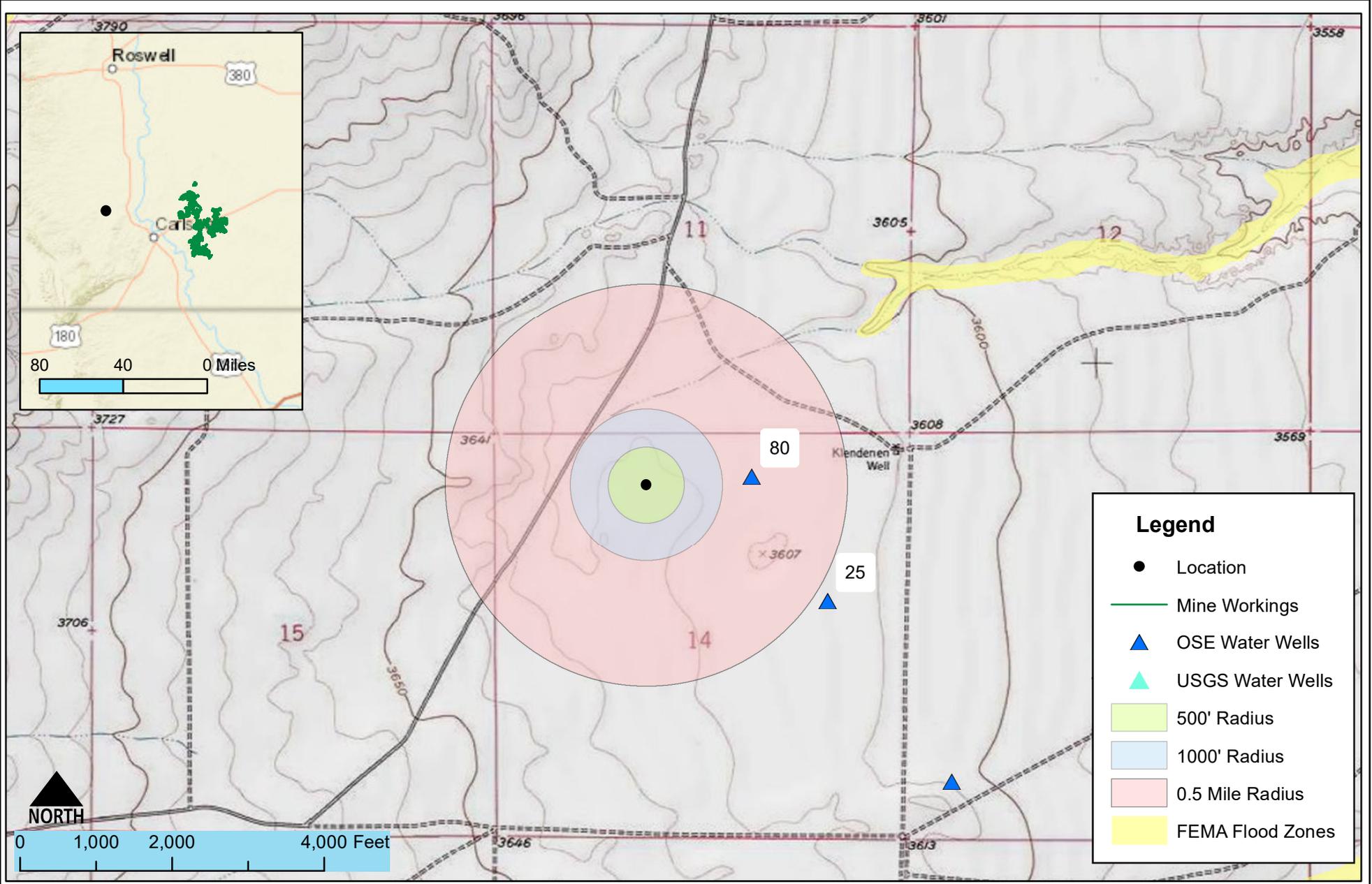
Appendices:

Appendix A: Form C141 Initial

Appendix B: NMOSE Wells Report

Appendix C: Laboratory Analytical Reports

FIGURES



Legend

- Location
- Mine Workings
- ▲ OSE Water Wells
- ▲ USGS Water Wells
- 500' Radius
- 1000' Radius
- 0.5 Mile Radius
- FEMA Flood Zones

Vicinity & Wellhead Protection Map
 John AGU #1 Battery - EOG Resources Sec. 14,
 T20S, R24E Eddy County, New Mexico

Figure 1

Date Saved: 9/7/2018
 By: _____ Date: _____ Descr: _____
 By: _____ Date: _____ Descr: _____
 Copyright 2015 Souder, Miller & Associates - All Rights Reserved

Drawn Melodie Sanjari
 Checked _____
 Approved _____



201 South Halaguena Street
 Carlsbad, New Mexico 88221
 (575) 689.7040
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Legend

- Location
- 100' Radius
- 200' Radius
- 300' Radius
- Lakes & Playas
- Rivers

Surface Water Map
 John AGU #1 Battery - EOG Resources
 Sec. 14, T20S, R24E Eddy County, New Mexico

Figure 2

Date Saved: 9/7/2018	By: _____	Date: _____	Revisions	Descr: _____
Copyright 2015 Souder, Miller & Associates - All Rights Reserved	By: _____	Date: _____		Descr: _____

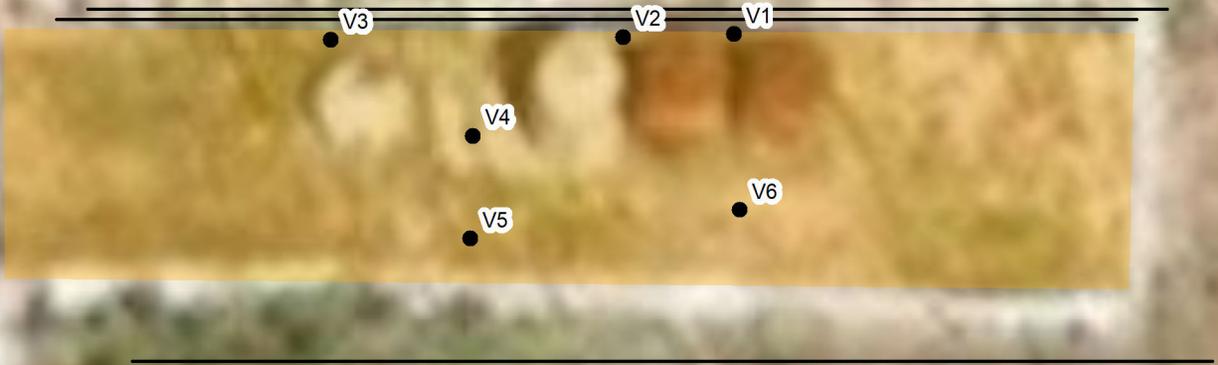
Drawn	<u>Melodie Sanjari</u>
Checked	_____
Approved	_____



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Legend

- Sample Locations
- Gas & Electric Lines
- Proposed Lined Area (Excluding Tanks)



Site and Sample Location Map
 John AGU #1 Battery - EOG Resources
 Sec. 14, T20S, R24E Eddy County, New Mexico

Figure 3

Document: C:\Users\mrs.SMA\Documents\GIS\data\Maps\John AGU #1 Battery.mxd

Date Saved: 9/7/2018

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

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



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TABLES

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	89	OSE
Horizontal Distance From All Water Sources Within 1/2 Mile (ft)	1,026 & 1,318	USGS 7.5 minute quadrangle map & OSE, respectively
Horizontal Distance to Nearest Significant Watercourse (ft)	1,026	USGS 7.5 minute quadrangle map

Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)						
Depth to Groundwater		Closure Criteria (units in mg/kg)				
		Chloride <small>*numerical limit or background, whichever is greater</small>	TPH	GRO + DRO	BTEX	Benzene
< 50' BGS		600	100		50	10
51' to 100'	x	10000	2500	1000	50	10
>100'		20000	2500	1000	50	10
Surface Water	yes or no	if yes, then				
<300' from continuously flowing watercourse or other significant watercourse?	no	600	100		50	10
<200' from lakebed, sinkhole or playa lake?	no					
Water Well or Water Source						
<500 feet from spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?	no					
<1000' from fresh water well or spring?	no					
Human and Other Areas						
<300' from an occupied permanent residence, school, hospital, institution or church?	no					
within incorporated municipal boundaries or within a defined municipal fresh water well field?	no					
<100' from wetland?	no					
within area overlying a subsurface mine	no					
within an unstable area?	no					
within a 100-year floodplain?	no					

Table 3: John AGU #1 Battery Sample Summary

Sample Number on Figure 2	Sample Date	Depth (feet bgs)	Proposed Action	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	Total TPH mg/Kg	Cl- Lab mg/Kg
NMOCD RRAL's for Site Ranking 10				50 mg/Kg	10 mg/Kg				2500 mg/Kg	10000 mg/kg
V1	3/27/2018	1	excavate	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	7460
	3/27/2018	2	excavate	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	5330
	3/27/2018	3	excavate	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	7730
	3/27/2018	4	excavate	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	1920
	7/3/2018	6	in-situ	--	--	--	--	--	--	720
	7/3/2018	8	in-situ	--	--	--	--	--	--	1500
	7/3/2018	8.5	in-situ	<0.207	<0.023	<4.6	<10	<50	<64.6	300
V2	3/27/2018	1	excavate	3.42	0.151	<10.0	<10.0	<10.0	<30.0	8000
	7/3/2018	2	excavate	--	--	--	--	--	--	6000
	7/3/2018	4	excavate	--	--	--	--	--	--	4300
	7/3/2018	6	in-situ	--	--	--	--	--	--	4000
	7/3/2018	8	in-situ	<0.207	<0.023	<4.6	9.9	<49	9.9	2400
V3	3/27/2018	1	excavate	4.34	0.874	<10.0	<10.0	<10.0	<30.0	8260
	7/3/2018	2	excavate	--	--	--	--	--	--	8700
	7/3/2018	3	excavate	--	--	--	--	--	--	8700
	7/3/2018	4	excavate	<0.216	<0.024	<4.8	73	120	193	8600
V4	3/27/2018	1	excavate	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	8000
	3/27/2018	2	excavate	<0.300	<0.050	<10.0	<10.0	<10.0	<10.0	4160
	3/27/2018	3	excavate	0.731	0.353	<10.0	64.8	<10.0	64.8	9200
	7/3/2018	6	in-situ	--	--	--	--	--	--	6600
	7/3/2018	8	in-situ	--	--	--	--	--	--	2300
	7/3/2018	10	in-situ	<0.216	<0.024	<4.8	160	250	410	2400
V5	3/27/2018	1	excavate	<0.300	<0.050	<10.0	18.0	10.1	28.1	3040
	3/27/2018	2	excavate	<0.300	<0.050	<10.0	<10.0	<10.0	<30.0	8530
	7/3/2018	4	excavate	--	--	--	--	--	--	5700
	7/3/2018	6	in-situ	--	--	--	--	--	--	5100
	7/3/2018	8	in-situ	--	--	--	--	--	--	6700
	7/3/2018	9	in-situ	<0.219	<0.024	<4.9	<9.0	<45	<58.9	1100
V6	3/27/2018	1	excavate	0.665	0.251	<10.0	<10.0	<10.0	<30.0	11600
	3/27/2018	2	excavate	0.454	0.286	<10.0	17.7	16.2	33.9	5920
	3/27/2018	3	excavate	<0.300	<0.050	<10.0	12.3	<10	12.3	7600
	7/3/2018	4	excavate	--	--	--	--	--	--	4300
	7/3/2018	6	in-situ	--	--	--	--	--	--	4300
	7/3/2018	8	in-situ	--	--	--	--	--	--	2200
	7/3/2018	8.5	in-situ	<0.213	<0.024	<4.7	<9.1	<45	<58.8	2800

to be excavated

"--" = Not Analyzed

orange line denotes liner placement

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

Form C-141
Revised April 3, 2017

APR 06 2018

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

RECEIVED

PAB1810139472

Release Notification and Corrective Action OPERATOR

NAB1810139599

Initial Report Final Report

Name of Company EOG Y Resources, Inc.	OGRID Number 25575	Contact Chase Settle
Address 104 S. 4 th Street Artesia NM 88210	Telephone No. 575-748-1471	
Facility Name John AGU #1 Battery	Facility Type Battery	

Surface Owner Private	Mineral Owner Fee	API No.
--------------------------	----------------------	---------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	14	20S	24E	660	North	1980	West	Eddy

Latitude 32.57897 Longitude -104.56104 NAD83

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 14 B/PW	Volume Recovered 12 B/PW
Source of Release Discharge Line	Date and Hour of Occurrence 03/22/2018; 3:30 PM	Date and Hour of Discovery 03/22/2018; PM
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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.*
Discharge line on water pump had a failure.

Describe Area Affected and Cleanup Action Taken.*
The impacted area was approximately 230 feet by 10 feet within the berm of the battery.

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: <i>Chase Settle</i>	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Chase Settle	Approved by Environmental Specialist: <i>Crystal W...</i>	
Title: Rep Safety & Environmental II	Approval Date: <i>4/10/18</i>	Expiration Date: <i>N/A</i>
E-mail Address: chase_settle@eogresources.com	Conditions of Approval: <i>see attached</i>	Attached: <i>APP-411A</i>
Date: April 5, 2018	Phone: 575-748-4171	

* Attach Additional Sheets If Necessary

4/9/18 AB

Operator/Responsible Party,

The OCD has received the form C-141 you provided on **4/6/18** regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4694 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 5/6/18. 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; 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

Weaver, Crystal, EMNRD

From: Yvette Moore <Yvette_Moore@eogresources.com>
Sent: Friday, April 6, 2018 12:11 PM
To: Weaver, Crystal, EMNRD; Bratcher, Mike, EMNRD
Cc: Bob Asher; Chase Settle
Subject: John AGU Battery C-141
Attachments: John AGU Battery_032618_Initial.pdf

Please find the attached C-141 Initial for the location listed below:

John AGU #1 Battery
660' FNL & 1980' FWL
Section 14, T20S-R24E
Eddy County, New Mexico

Thanks,



Yvette Moore

Rep Safety & Environmental II
Safety & Environmental Department
Artesia Division
(575)748-4223
yvette_moore@eogresources.com

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
RA 05146			ED	1	2	14	20S	24E		541600	3604734*	401	300	80	220
RA 02906 CLW			CH	3	4	2	14	20S	24E	541907	3604238*	843	145	25	120
RA 04742			ED	3	3	13	20S	24E		542408	3603517*	1689	300		
RA 07771			ED	4	1	4	22	20S	24E	540073	3602194*	2745			
RA 05424			ED	4	2	3	22	20S	24E	539669	3602194*	2934	1000	400	600
RA 03085			CH		1	01	20S	24E		542613	3607799*	3407	465	300	165
RA 03084			ED		1	03	20S	24E		539366	3607752*	3562	330	268	62
RA 10139			ED	3	3	2	21	20S	24E	538285	3602597*	3592	308		
RA 04245			ED	4	4	35	19S	24E		542005	3608363*	3752	300		
RA 05284			ED	1	2	01	20S	24E		543220	3607973*	3847	282	273	9
RA 04956			ED	1	1	21	20S	24E		537605	3603101*	3933	1013		
RA 04502			ED	2	2	25	20S	24E		543656	3601480*	4048	300	268	32
RA 04502 REPAR			ED	2	2	25	20S	24E		543656	3601480*	4048	275	268	7
RA 05723			ED	3	3	34	19S	24E		539170	3608353*	4180	310	270	40
RA 02775			CH	1	4	3	21	20S	24E	537899	3601986*	4271	140	31	109
RA 10140			ED	2	1	1	35	20S	24E	540938	3599981*	4724	295		
RA 03265			ED	1	2	3	08	20S	25E	545972	3605636*	4863	150		
RA 05478			ED	3	2	3	08	20S	24E	536272	3605389*	4975	550	500	50

Average Depth to Water: **243 feet**

Minimum Depth: **25 feet**

Maximum Depth: **500 feet**

Record Count: 18

UTMNAD83 Radius Search (in meters):

Easting (X): 541199.63

Northing (Y): 3604698

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



April 06, 2018

CHASE SETTLE
EOG Y RESOURCES, INC
105 SOUTH 4TH STREET
ARTESIA, NM 88210

RE: JOHN AGU BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 03/28/18 14:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene
Lab Director/Quality Manager

Analytical Results For:

 EOG Y RESOURCES, INC
 CHASE SETTLE
 105 SOUTH 4TH STREET
 ARTESIA NM, 88210
 Fax To: (575) 748-4131

 Received: 03/28/2018
 Reported: 04/06/2018
 Project Name: JOHN AGU BATTERY
 Project Number: NONE GIVEN
 Project Location: JOHN AGU BATTERY

 Sampling Date: 03/27/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V1 - 1' (H800879-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/02/2018	ND	1.98	98.9	2.00	1.09	
Toluene*	<0.050	0.050	04/02/2018	ND	1.98	98.9	2.00	0.657	
Ethylbenzene*	<0.050	0.050	04/02/2018	ND	1.95	97.7	2.00	0.566	
Total Xylenes*	<0.150	0.150	04/02/2018	ND	6.04	101	6.00	0.461	
Total BTEX	<0.300	0.300	04/02/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7460	16.0	04/02/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/04/2018	ND	198	99.0	200	2.19	
DRO >C10-C28*	<10.0	10.0	04/04/2018	ND	208	104	200	2.23	
EXT DRO >C28-C36	<10.0	10.0	04/04/2018	ND					

Surrogate: 1-Chlorooctane 88.3 % 41-142

Surrogate: 1-Chlorooctadecane 72.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 EOG Y RESOURCES, INC
 CHASE SETTLE
 105 SOUTH 4TH STREET
 ARTESIA NM, 88210
 Fax To: (575) 748-4131

 Received: 03/28/2018
 Reported: 04/06/2018
 Project Name: JOHN AGU BATTERY
 Project Number: NONE GIVEN
 Project Location: JOHN AGU BATTERY

 Sampling Date: 03/27/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V1 - 2' (H800879-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/02/2018	ND	1.98	98.9	2.00	1.09	
Toluene*	<0.050	0.050	04/02/2018	ND	1.98	98.9	2.00	0.657	
Ethylbenzene*	<0.050	0.050	04/02/2018	ND	1.95	97.7	2.00	0.566	
Total Xylenes*	<0.150	0.150	04/02/2018	ND	6.04	101	6.00	0.461	
Total BTEX	<0.300	0.300	04/02/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5330	16.0	04/02/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/04/2018	ND	198	99.0	200	2.19	
DRO >C10-C28*	<10.0	10.0	04/04/2018	ND	208	104	200	2.23	
EXT DRO >C28-C36	<10.0	10.0	04/04/2018	ND					

Surrogate: 1-Chlorooctane 94.0 % 41-142

Surrogate: 1-Chlorooctadecane 82.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

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 EOG Y RESOURCES, INC
 CHASE SETTLE
 105 SOUTH 4TH STREET
 ARTESIA NM, 88210
 Fax To: (575) 748-4131

 Received: 03/28/2018
 Reported: 04/06/2018
 Project Name: JOHN AGU BATTERY
 Project Number: NONE GIVEN
 Project Location: JOHN AGU BATTERY

 Sampling Date: 03/27/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V1 - 3' (H800879-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/02/2018	ND	1.98	98.9	2.00	1.09	
Toluene*	<0.050	0.050	04/02/2018	ND	1.98	98.9	2.00	0.657	
Ethylbenzene*	<0.050	0.050	04/02/2018	ND	1.95	97.7	2.00	0.566	
Total Xylenes*	<0.150	0.150	04/02/2018	ND	6.04	101	6.00	0.461	
Total BTEX	<0.300	0.300	04/02/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7730	16.0	04/02/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/06/2018	ND	236	118	200	4.81	
DRO >C10-C28*	<10.0	10.0	04/06/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	04/06/2018	ND					

Surrogate: 1-Chlorooctane 84.7 % 41-142

Surrogate: 1-Chlorooctadecane 76.4 % 37.6-147

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Analytical Results For:

 EOG Y RESOURCES, INC
 CHASE SETTLE
 105 SOUTH 4TH STREET
 ARTESIA NM, 88210
 Fax To: (575) 748-4131

 Received: 03/28/2018
 Reported: 04/06/2018
 Project Name: JOHN AGU BATTERY
 Project Number: NONE GIVEN
 Project Location: JOHN AGU BATTERY

 Sampling Date: 03/27/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V1 - 4' (H800879-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/02/2018	ND	1.98	98.9	2.00	1.09	
Toluene*	<0.050	0.050	04/02/2018	ND	1.98	98.9	2.00	0.657	
Ethylbenzene*	<0.050	0.050	04/02/2018	ND	1.95	97.7	2.00	0.566	
Total Xylenes*	<0.150	0.150	04/02/2018	ND	6.04	101	6.00	0.461	
Total BTEX	<0.300	0.300	04/02/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1920	16.0	04/02/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/06/2018	ND	236	118	200	4.81	
DRO >C10-C28*	<10.0	10.0	04/06/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	04/06/2018	ND					

Surrogate: 1-Chlorooctane 89.3 % 41-142

Surrogate: 1-Chlorooctadecane 87.8 % 37.6-147

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Analytical Results For:

 EOG Y RESOURCES, INC
 CHASE SETTLE
 105 SOUTH 4TH STREET
 ARTESIA NM, 88210
 Fax To: (575) 748-4131

 Received: 03/28/2018
 Reported: 04/06/2018
 Project Name: JOHN AGU BATTERY
 Project Number: NONE GIVEN
 Project Location: JOHN AGU BATTERY

 Sampling Date: 03/27/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V2 - 1' (H800879-05)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.151	0.100	04/03/2018	ND	1.98	98.9	2.00	1.09	
Toluene*	0.938	0.100	04/03/2018	ND	1.98	98.9	2.00	0.657	
Ethylbenzene*	0.323	0.100	04/03/2018	ND	1.95	97.7	2.00	0.566	
Total Xylenes*	2.01	0.300	04/03/2018	ND	6.04	101	6.00	0.461	
Total BTEX	3.42	0.600	04/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8000	16.0	04/02/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/06/2018	ND	236	118	200	4.81	
DRO >C10-C28*	<10.0	10.0	04/06/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	04/06/2018	ND					

Surrogate: 1-Chlorooctane 84.2 % 41-142

Surrogate: 1-Chlorooctadecane 83.7 % 37.6-147

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Analytical Results For:

 EOG Y RESOURCES, INC
 CHASE SETTLE
 105 SOUTH 4TH STREET
 ARTESIA NM, 88210
 Fax To: (575) 748-4131

 Received: 03/28/2018
 Reported: 04/06/2018
 Project Name: JOHN AGU BATTERY
 Project Number: NONE GIVEN
 Project Location: JOHN AGU BATTERY

 Sampling Date: 03/27/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V3 - 1' (H800879-06)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.874	0.500	04/03/2018	ND	1.98	98.9	2.00	1.09	
Toluene*	3.46	0.500	04/03/2018	ND	1.98	98.9	2.00	0.657	
Ethylbenzene*	<0.500	0.500	04/03/2018	ND	1.95	97.7	2.00	0.566	
Total Xylenes*	<1.50	1.50	04/03/2018	ND	6.04	101	6.00	0.461	
Total BTEX	4.34	3.00	04/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8260	16.0	04/02/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/06/2018	ND	236	118	200	4.81	
DRO >C10-C28*	<10.0	10.0	04/06/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	04/06/2018	ND					

Surrogate: 1-Chlorooctane 76.9 % 41-142

Surrogate: 1-Chlorooctadecane 75.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 EOG Y RESOURCES, INC
 CHASE SETTLE
 105 SOUTH 4TH STREET
 ARTESIA NM, 88210
 Fax To: (575) 748-4131

 Received: 03/28/2018
 Reported: 04/06/2018
 Project Name: JOHN AGU BATTERY
 Project Number: NONE GIVEN
 Project Location: JOHN AGU BATTERY

 Sampling Date: 03/27/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V4 - 1' (H800879-07)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/03/2018	ND	1.98	98.9	2.00	1.09	
Toluene*	0.052	0.050	04/03/2018	ND	1.98	98.9	2.00	0.657	
Ethylbenzene*	<0.050	0.050	04/03/2018	ND	1.95	97.7	2.00	0.566	
Total Xylenes*	<0.150	0.150	04/03/2018	ND	6.04	101	6.00	0.461	
Total BTEX	<0.300	0.300	04/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8000	16.0	04/02/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/06/2018	ND	236	118	200	4.81	
DRO >C10-C28*	<10.0	10.0	04/06/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	04/06/2018	ND					

Surrogate: 1-Chlorooctane 88.5 % 41-142

Surrogate: 1-Chlorooctadecane 81.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 EOG Y RESOURCES, INC
 CHASE SETTLE
 105 SOUTH 4TH STREET
 ARTESIA NM, 88210
 Fax To: (575) 748-4131

 Received: 03/28/2018
 Reported: 04/06/2018
 Project Name: JOHN AGU BATTERY
 Project Number: NONE GIVEN
 Project Location: JOHN AGU BATTERY

 Sampling Date: 03/27/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V4 - 2' (H800879-08)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.98	
Toluene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	3.12	
Ethylbenzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.49	
Total Xylenes*	<0.150	0.150	04/03/2018	ND	6.34	106	6.00	2.24	
Total BTEX	<0.300	0.300	04/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4160	16.0	04/03/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/06/2018	ND	236	118	200	4.81	
DRO >C10-C28*	<10.0	10.0	04/06/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	04/06/2018	ND					

Surrogate: 1-Chlorooctane 86.9 % 41-142

Surrogate: 1-Chlorooctadecane 85.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 EOG Y RESOURCES, INC
 CHASE SETTLE
 105 SOUTH 4TH STREET
 ARTESIA NM, 88210
 Fax To: (575) 748-4131

 Received: 03/28/2018
 Reported: 04/06/2018
 Project Name: JOHN AGU BATTERY
 Project Number: NONE GIVEN
 Project Location: JOHN AGU BATTERY

 Sampling Date: 03/27/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V4 - 3' (H800879-09)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.353	0.050	04/03/2018	ND	2.04	102	2.00	2.98	
Toluene*	0.378	0.050	04/03/2018	ND	2.04	102	2.00	3.12	
Ethylbenzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.49	
Total Xylenes*	<0.150	0.150	04/03/2018	ND	6.34	106	6.00	2.24	
Total BTEX	0.731	0.300	04/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9200	16.0	04/03/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/06/2018	ND	236	118	200	4.81	
DRO >C10-C28*	64.8	10.0	04/06/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	04/06/2018	ND					

Surrogate: 1-Chlorooctane 81.6 % 41-142

Surrogate: 1-Chlorooctadecane 87.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 EOG Y RESOURCES, INC
 CHASE SETTLE
 105 SOUTH 4TH STREET
 ARTESIA NM, 88210
 Fax To: (575) 748-4131

 Received: 03/28/2018
 Reported: 04/06/2018
 Project Name: JOHN AGU BATTERY
 Project Number: NONE GIVEN
 Project Location: JOHN AGU BATTERY

 Sampling Date: 03/27/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V4 - 4' (H800879-10)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.98	
Toluene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	3.12	
Ethylbenzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.49	
Total Xylenes*	<0.150	0.150	04/03/2018	ND	6.34	106	6.00	2.24	
Total BTEX	<0.300	0.300	04/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7120	16.0	04/03/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/06/2018	ND	236	118	200	4.81	
DRO >C10-C28*	229	10.0	04/06/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	74.1	10.0	04/06/2018	ND					

Surrogate: 1-Chlorooctane 81.5 % 41-142

Surrogate: 1-Chlorooctadecane 92.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 EOG Y RESOURCES, INC
 CHASE SETTLE
 105 SOUTH 4TH STREET
 ARTESIA NM, 88210
 Fax To: (575) 748-4131

 Received: 03/28/2018
 Reported: 04/06/2018
 Project Name: JOHN AGU BATTERY
 Project Number: NONE GIVEN
 Project Location: JOHN AGU BATTERY

 Sampling Date: 03/27/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V5 - 1' (H800879-11)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.98	
Toluene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	3.12	
Ethylbenzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.49	
Total Xylenes*	<0.150	0.150	04/03/2018	ND	6.34	106	6.00	2.24	
Total BTEX	<0.300	0.300	04/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3040	16.0	04/03/2018	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/06/2018	ND	236	118	200	4.81	
DRO >C10-C28*	18.0	10.0	04/06/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	10.1	10.0	04/06/2018	ND					

Surrogate: 1-Chlorooctane 81.2 % 41-142

Surrogate: 1-Chlorooctadecane 83.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 EOG Y RESOURCES, INC
 CHASE SETTLE
 105 SOUTH 4TH STREET
 ARTESIA NM, 88210
 Fax To: (575) 748-4131

 Received: 03/28/2018
 Reported: 04/06/2018
 Project Name: JOHN AGU BATTERY
 Project Number: NONE GIVEN
 Project Location: JOHN AGU BATTERY

 Sampling Date: 03/27/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V5 - 2' (H800879-12)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.98	
Toluene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	3.12	
Ethylbenzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.49	
Total Xylenes*	<0.150	0.150	04/03/2018	ND	6.34	106	6.00	2.24	
Total BTEX	<0.300	0.300	04/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8530	16.0	04/03/2018	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/06/2018	ND	236	118	200	4.81	
DRO >C10-C28*	<10.0	10.0	04/06/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	04/06/2018	ND					

Surrogate: 1-Chlorooctane 82.1 % 41-142

Surrogate: 1-Chlorooctadecane 75.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 EOG Y RESOURCES, INC
 CHASE SETTLE
 105 SOUTH 4TH STREET
 ARTESIA NM, 88210
 Fax To: (575) 748-4131

 Received: 03/28/2018
 Reported: 04/06/2018
 Project Name: JOHN AGU BATTERY
 Project Number: NONE GIVEN
 Project Location: JOHN AGU BATTERY

 Sampling Date: 03/27/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V6 - 1' (H800879-13)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.251	0.050	04/03/2018	ND	2.04	102	2.00	2.98	
Toluene*	0.414	0.050	04/03/2018	ND	2.04	102	2.00	3.12	
Ethylbenzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.49	
Total Xylenes*	<0.150	0.150	04/03/2018	ND	6.34	106	6.00	2.24	
Total BTEX	0.665	0.300	04/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	11600	16.0	04/03/2018	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/06/2018	ND	236	118	200	4.81	
DRO >C10-C28*	<10.0	10.0	04/06/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	04/06/2018	ND					

Surrogate: 1-Chlorooctane 86.3 % 41-142

Surrogate: 1-Chlorooctadecane 84.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 EOG Y RESOURCES, INC
 CHASE SETTLE
 105 SOUTH 4TH STREET
 ARTESIA NM, 88210
 Fax To: (575) 748-4131

 Received: 03/28/2018
 Reported: 04/06/2018
 Project Name: JOHN AGU BATTERY
 Project Number: NONE GIVEN
 Project Location: JOHN AGU BATTERY

 Sampling Date: 03/27/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V6 - 2' (H800879-14)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.286	0.050	04/03/2018	ND	2.04	102	2.00	2.98	
Toluene*	0.168	0.050	04/03/2018	ND	2.04	102	2.00	3.12	
Ethylbenzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.49	
Total Xylenes*	<0.150	0.150	04/03/2018	ND	6.34	106	6.00	2.24	
Total BTEX	0.454	0.300	04/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5920	16.0	04/03/2018	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/06/2018	ND	236	118	200	4.81	
DRO >C10-C28*	17.7	10.0	04/06/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	16.2	10.0	04/06/2018	ND					

Surrogate: 1-Chlorooctane 83.2 % 41-142

Surrogate: 1-Chlorooctadecane 82.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 EOG Y RESOURCES, INC
 CHASE SETTLE
 105 SOUTH 4TH STREET
 ARTESIA NM, 88210
 Fax To: (575) 748-4131

 Received: 03/28/2018
 Reported: 04/06/2018
 Project Name: JOHN AGU BATTERY
 Project Number: NONE GIVEN
 Project Location: JOHN AGU BATTERY

 Sampling Date: 03/27/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V6 - 3' (H800879-15)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.98	
Toluene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	3.12	
Ethylbenzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.49	
Total Xylenes*	<0.150	0.150	04/03/2018	ND	6.34	106	6.00	2.24	
Total BTEX	<0.300	0.300	04/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7600	16.0	04/03/2018	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/06/2018	ND	236	118	200	4.81	
DRO >C10-C28*	12.3	10.0	04/06/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	04/06/2018	ND					

Surrogate: 1-Chlorooctane 80.6 % 41-142

Surrogate: 1-Chlorooctadecane 80.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report





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

July 25, 2018

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

RE: John AGU Battery

OrderNo.: 1807276

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 21 sample(s) on 7/7/2018 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued July 18, 2018.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1807276

Date Reported: 7/25/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: V1-6

Project: John AGU Battery

Collection Date: 7/3/2018 10:57:00 AM

Lab ID: 1807276-001

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: MRA
Chloride	720	30		mg/Kg	20	7/13/2018 4:28:57 PM	39196

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.

CLIENT: Souder, Miller & Associates

Client Sample ID: V1-8

Project: John AGU Battery

Collection Date: 7/3/2018 11:03:00 AM

Lab ID: 1807276-002

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: MRA
Chloride	1500	75		mg/Kg	50	7/16/2018 7:01:25 AM	39196

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 1807276

Date Reported: 7/25/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: V1-8.5

Project: John AGU Battery

Collection Date: 7/3/2018 11:15:00 AM

Lab ID: 1807276-003

Matrix: SOLID

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	300	30		mg/Kg	20	7/13/2018 4:53:45 PM	39196
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/11/2018 12:12:12 PM	39125
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/11/2018 12:12:12 PM	39125
Surr: DNOP	89.2	70-130		%Rec	1	7/11/2018 12:12:12 PM	39125
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	7/10/2018 5:48:26 PM	39103
Surr: BFB	95.7	15-316		%Rec	1	7/10/2018 5:48:26 PM	39103
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.092		mg/Kg	1	7/10/2018 5:48:26 PM	39103
Benzene	ND	0.023		mg/Kg	1	7/10/2018 5:48:26 PM	39103
Toluene	ND	0.046		mg/Kg	1	7/10/2018 5:48:26 PM	39103
Ethylbenzene	ND	0.046		mg/Kg	1	7/10/2018 5:48:26 PM	39103
Xylenes, Total	ND	0.092		mg/Kg	1	7/10/2018 5:48:26 PM	39103
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	7/10/2018 5:48:26 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 1807276

Date Reported: 7/25/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: V2-2

Project: John AGU Battery

Collection Date: 7/3/2018 11:31:00 AM

Lab ID: 1807276-004

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: MRA
Chloride	6000	300		mg/Kg	200	7/16/2018 7:13:49 AM	39196

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 1807276

Date Reported: 7/25/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: V2-4

Project: John AGU Battery

Collection Date: 7/3/2018 11:38:00 AM

Lab ID: 1807276-005

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: MRA
Chloride	4300	300		mg/Kg	200	7/16/2018 7:26:13 AM	39196

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 1807276

Date Reported: 7/25/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: V2-6

Project: John AGU Battery

Collection Date: 7/3/2018 11:47:00 AM

Lab ID: 1807276-006

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	4000	150		mg/Kg	100	7/16/2018 7:38:37 AM	39196

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 1807276

Date Reported: 7/25/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: V2-8

Project: John AGU Battery

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

Lab ID: 1807276-007

Matrix: SOLID

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	2400	75		mg/Kg	50	7/16/2018 7:51:02 AM	39196
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	9.9	9.8		mg/Kg	1	7/11/2018 1:26:21 PM	39125
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/11/2018 1:26:21 PM	39125
Surr: DNOP	93.0	70-130		%Rec	1	7/11/2018 1:26:21 PM	39125
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	7/10/2018 6:12:02 PM	39103
Surr: BFB	97.2	15-316		%Rec	1	7/10/2018 6:12:02 PM	39103
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.092		mg/Kg	1	7/10/2018 6:12:02 PM	39103
Benzene	ND	0.023		mg/Kg	1	7/10/2018 6:12:02 PM	39103
Toluene	ND	0.046		mg/Kg	1	7/10/2018 6:12:02 PM	39103
Ethylbenzene	ND	0.046		mg/Kg	1	7/10/2018 6:12:02 PM	39103
Xylenes, Total	ND	0.092		mg/Kg	1	7/10/2018 6:12:02 PM	39103
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/10/2018 6:12:02 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 **1807276**

Date Reported: **7/25/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: V3-2

Project: John AGU Battery

Collection Date: 7/3/2018 1:30:00 PM

Lab ID: 1807276-008

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	8700	300		mg/Kg	200	7/16/2018 8:03:27 AM	39196

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 1807276

Date Reported: 7/25/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: V3-3

Project: John AGU Battery

Collection Date: 7/3/2018 1:45:00 PM

Lab ID: 1807276-009

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	8700	750		mg/Kg	500	7/16/2018 8:15:51 AM	39196

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 1807276

Date Reported: 7/25/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: V3-4

Project: John AGU Battery

Collection Date: 7/3/2018 1:55:00 PM

Lab ID: 1807276-010

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: MRA
Chloride	8600	750		mg/Kg	500	7/16/2018 8:28:16 AM	39196
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	73	10		mg/Kg	1	7/11/2018 1:51:14 PM	39125
Motor Oil Range Organics (MRO)	120	50		mg/Kg	1	7/11/2018 1:51:14 PM	39125
Surr: DNOP	106	70-130		%Rec	1	7/11/2018 1:51:14 PM	39125
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/10/2018 6:35:42 PM	39103
Surr: BFB	97.5	15-316		%Rec	1	7/10/2018 6:35:42 PM	39103
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.096		mg/Kg	1	7/10/2018 6:35:42 PM	39103
Benzene	ND	0.024		mg/Kg	1	7/10/2018 6:35:42 PM	39103
Toluene	ND	0.048		mg/Kg	1	7/10/2018 6:35:42 PM	39103
Ethylbenzene	ND	0.048		mg/Kg	1	7/10/2018 6:35:42 PM	39103
Xylenes, Total	ND	0.096		mg/Kg	1	7/10/2018 6:35:42 PM	39103
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	7/10/2018 6:35:42 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 1807276

Date Reported: 7/25/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: V4-6

Project: John AGU Battery

Collection Date: 7/3/2018 7:36:00 AM

Lab ID: 1807276-011

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	6600	300		mg/Kg	200	7/17/2018 7:56:37 AM	39208

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.

CLIENT: Souder, Miller & Associates

Client Sample ID: V4-8

Project: John AGU Battery

Collection Date: 7/3/2018 7:54:00 AM

Lab ID: 1807276-012

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	2300	75		mg/Kg	50	7/17/2018 8:09:02 AM	39208

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 1807276

Date Reported: 7/25/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: V4-10

Project: John AGU Battery

Collection Date: 7/3/2018 8:15:00 AM

Lab ID: 1807276-013

Matrix: SOLID

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	2400	75		mg/Kg	50	7/17/2018 8:21:26 AM	39208
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	160	9.4	H	mg/Kg	1	7/23/2018 11:19:31 AM	39336
Motor Oil Range Organics (MRO)	250	47	H	mg/Kg	1	7/23/2018 11:19:31 AM	39336
Surr: DNOP	100	70-130	H	%Rec	1	7/23/2018 11:19:31 AM	39336
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8	H	mg/Kg	1	7/24/2018 11:54:21 AM	39352
Surr: BFB	93.7	15-316	H	%Rec	1	7/24/2018 11:54:21 AM	39352
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024	H	mg/Kg	1	7/24/2018 11:54:21 AM	39352
Toluene	ND	0.048	H	mg/Kg	1	7/24/2018 11:54:21 AM	39352
Ethylbenzene	ND	0.048	H	mg/Kg	1	7/24/2018 11:54:21 AM	39352
Xylenes, Total	ND	0.096	H	mg/Kg	1	7/24/2018 11:54:21 AM	39352
Surr: 4-Bromofluorobenzene	103	80-120	H	%Rec	1	7/24/2018 11:54:21 AM	39352

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.

CLIENT: Souder, Miller & Associates

Client Sample ID: V5-4

Project: John AGU Battery

Collection Date: 7/3/2018 8:44:00 AM

Lab ID: 1807276-014

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: CJS
Chloride	5700	300		mg/Kg	200	7/17/2018 8:33:51 AM	39208

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.

CLIENT: Souder, Miller & Associates

Client Sample ID: V5-6

Project: John AGU Battery

Collection Date: 7/3/2018 8:57:00 AM

Lab ID: 1807276-015

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: CJS
Chloride	5100	300		mg/Kg	200	7/17/2018 8:46:16 AM	39208

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 1807276

Date Reported: 7/25/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: V5-8

Project: John AGU Battery

Collection Date: 7/3/2018 9:08:00 AM

Lab ID: 1807276-016

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	6700	300		mg/Kg	200	7/17/2018 8:58:40 AM	39208

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 1807276

Date Reported: 7/25/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: V5-9

Project: John AGU Battery

Collection Date: 7/3/2018 9:20:00 AM

Lab ID: 1807276-017

Matrix: SOLID

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	1100	30		mg/Kg	20	7/16/2018 2:16:01 AM	39208
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.0	H	mg/Kg	1	7/23/2018 10:35:20 AM	39336
Motor Oil Range Organics (MRO)	ND	45	H	mg/Kg	1	7/23/2018 10:35:20 AM	39336
Surr: DNOP	92.8	70-130	H	%Rec	1	7/23/2018 10:35:20 AM	39336
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9	H	mg/Kg	1	7/24/2018 12:17:48 PM	39352
Surr: BFB	89.7	15-316	H	%Rec	1	7/24/2018 12:17:48 PM	39352
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024	H	mg/Kg	1	7/24/2018 12:17:48 PM	39352
Toluene	ND	0.049	H	mg/Kg	1	7/24/2018 12:17:48 PM	39352
Ethylbenzene	ND	0.049	H	mg/Kg	1	7/24/2018 12:17:48 PM	39352
Xylenes, Total	ND	0.097	H	mg/Kg	1	7/24/2018 12:17:48 PM	39352
Surr: 4-Bromofluorobenzene	99.3	80-120	H	%Rec	1	7/24/2018 12:17:48 PM	39352

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.

CLIENT: Souder, Miller & Associates

Client Sample ID: V6-4

Project: John AGU Battery

Collection Date: 7/3/2018 9:42:00 AM

Lab ID: 1807276-018

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	4300	150		mg/Kg	100	7/17/2018 9:35:54 AM	39208

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.

CLIENT: Souder, Miller & Associates

Client Sample ID: V6-6

Project: John AGU Battery

Collection Date: 7/3/2018 9:54:00 AM

Lab ID: 1807276-019

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	4300	150		mg/Kg	100	7/17/2018 9:48:19 AM	39208

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.

CLIENT: Souder, Miller & Associates

Client Sample ID: V6-8

Project: John AGU Battery

Collection Date: 7/3/2018 10:06:00 AM

Lab ID: 1807276-020

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	2200	150		mg/Kg	100	7/17/2018 10:00:44 AM	39208

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 1807276

Date Reported: 7/25/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: V6-8.5

Project: John AGU Battery

Collection Date: 7/3/2018 10:17:00 AM

Lab ID: 1807276-021

Matrix: SOLID

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	2800	150		mg/Kg	100	7/17/2018 10:13:09 AM	39208
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.1	H	mg/Kg	1	7/23/2018 10:13:25 AM	39336
Motor Oil Range Organics (MRO)	ND	45	H	mg/Kg	1	7/23/2018 10:13:25 AM	39336
Surr: DNOP	91.1	70-130	H	%Rec	1	7/23/2018 10:13:25 AM	39336
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7	H	mg/Kg	1	7/24/2018 12:41:20 PM	39352
Surr: BFB	92.5	15-316	H	%Rec	1	7/24/2018 12:41:20 PM	39352
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024	H	mg/Kg	1	7/24/2018 12:41:20 PM	39352
Toluene	ND	0.047	H	mg/Kg	1	7/24/2018 12:41:20 PM	39352
Ethylbenzene	ND	0.047	H	mg/Kg	1	7/24/2018 12:41:20 PM	39352
Xylenes, Total	ND	0.095	H	mg/Kg	1	7/24/2018 12:41:20 PM	39352
Surr: 4-Bromofluorobenzene	102	80-120	H	%Rec	1	7/24/2018 12:41:20 PM	39352

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#: 1807276

25-Jul-18

Client: Souder, Miller & Associates

Project: John AGU Battery

Sample ID	MB-39196	SampType:	mblk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	39196	RunNo:	52688					
Prep Date:	7/13/2018	Analysis Date:	7/13/2018	SeqNo:	1729903	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-39196	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	39196	RunNo:	52688					
Prep Date:	7/13/2018	Analysis Date:	7/13/2018	SeqNo:	1729904	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.2	90	110			

Sample ID	MB-39208	SampType:	mblk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	39208	RunNo:	52708					
Prep Date:	7/15/2018	Analysis Date:	7/16/2018	SeqNo:	1730611	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-39208	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	39208	RunNo:	52708					
Prep Date:	7/15/2018	Analysis Date:	7/16/2018	SeqNo:	1730612	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.3	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1807276

25-Jul-18

Client: Souder, Miller & Associates

Project: John AGU Battery

Sample ID MB-39125	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 39125		RunNo: 52618							
Prep Date: 7/10/2018	Analysis Date: 7/11/2018		SeqNo: 1726901		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	8.6		10.00		86.0	70	130			

Sample ID LCS-39125	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 39125		RunNo: 52618							
Prep Date: 7/10/2018	Analysis Date: 7/11/2018		SeqNo: 1726902		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	52	10	50.00	0	103	70	130			
Surr: DNOP	4.1		5.000		82.3	70	130			

Sample ID 1807276-003AMS	SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: V1-8.5	Batch ID: 39125		RunNo: 52618							
Prep Date: 7/10/2018	Analysis Date: 7/11/2018		SeqNo: 1727034		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	53	9.8	49.16	4.611	98.5	62	120			
Surr: DNOP	4.3		4.916		86.7	70	130			

Sample ID 1807276-003AMSD	SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: V1-8.5	Batch ID: 39125		RunNo: 52618							
Prep Date: 7/10/2018	Analysis Date: 7/11/2018		SeqNo: 1727035		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	53	9.9	49.36	4.611	98.6	62	120	0.459	20	
Surr: DNOP	4.3		4.936		87.8	70	130	0	0	

Sample ID LCS-39336	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 39336		RunNo: 52903							
Prep Date: 7/23/2018	Analysis Date: 7/23/2018		SeqNo: 1738189		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	47	10	50.00	0	93.4	70	130			
Surr: DNOP	4.3		5.000		86.2	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#: 1807276

25-Jul-18

Client: Souder, Miller & Associates

Project: John AGU Battery

Sample ID	MB-39336	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	39336	RunNo:	52903					
Prep Date:	7/23/2018	Analysis Date:	7/23/2018	SeqNo:	1738190	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	8.8		10.00		88.0	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#: 1807276

25-Jul-18

Client: Souder, Miller & Associates

Project: John AGU Battery

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 MB-39352	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 39352		RunNo: 52947							
Prep Date: 7/23/2018	Analysis Date: 7/24/2018		SeqNo: 1740075		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	950		1000		95.3	15	316			

Sample ID LCS-39352	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 39352		RunNo: 52947							
Prep Date: 7/23/2018	Analysis Date: 7/24/2018		SeqNo: 1740076		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	112	75.9	131			
Surr: BFB	1000		1000		103	15	316			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1807276

25-Jul-18

Client: Souder, Miller & Associates

Project: John AGU Battery

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 MB-39352	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 39352		RunNo: 52947							
Prep Date: 7/23/2018	Analysis Date: 7/24/2018		SeqNo: 1740124		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID LCS-39352	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 39352		RunNo: 52947							
Prep Date: 7/23/2018	Analysis Date: 7/24/2018		SeqNo: 1740125		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.8	77.3	128			
Toluene	0.97	0.050	1.000	0	97.2	79.2	125			
Ethylbenzene	0.95	0.050	1.000	0	94.6	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	97.1	81.6	129			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	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
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Hall Environmental Analysis Laboratory
 4901 Hawkins NE
 Albuquerque, NM 87109
 TEL: 505-345-3975 FAX: 505-345-4107
 Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1807276

RcptNo: 1

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

Completed By: Isaiah Ortiz 7/9/2018 9:50:19 AM

Reviewed By: JO 7/9/18

Anne Thorne
IO

CB: ENM 7/9/18

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No NA
9. VOA vials have zero headspace? Yes No No VOA Vials
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels? (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: _____

ENM 7/9/18

Special Handling (if applicable)

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

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

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			

Chain-of-Custody Record

Client: SMA Carlsbad

Mailing Address:

Turn-Around Time:

Standard Rush 5 day

Project Name:

John A&U Battery

Project #:

Phone #:

email or Fax#:

QA/QC Package:

Standard Level 4 (Full Validation)

Accreditation

NELAP Other

EDD (Type)

Project Manager:

Austin Weyand

Sampler:

NES

On Ice: Yes No

Sample Temperature 68°F-105.8

Date

Time

Matrix

Sample Request ID

Container Type and #

Preservative Type

HEAL No.

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)
7/3/18	8:15	Rock	V4-10'	Baggy		1807276	X		X					X			
7/3/18	8:44	soil	V5-4'	402										X			
	8:57	soil	V5-6'											X			
	9:08	soil	V5-8'											X			
	9:20	Rock	V5-9'	Baggy			X		X					X			
	9:42	soil	V6-4'											X			
	9:54	soil	V6-6'											X			
	10:06	soil	V6-8'											X			
	10:17	Rock	V6-8.5	Baggy			X		X					X			

Analysis Request



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

Remarks:

EOG
Page 2 of 2

Received by:

Date: 7/5/18 Time: 0900

Received by:

Date: 07/07/18 Time: 1050

Relinquished by:

Date: 7/3/18 Time: 0900

Relinquished by:

Date: 7/3/18 Time: 1900