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

October 2, 2017

#5E26442-BG1

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

SUBJECT: SOIL REMEDIATION WORK PLAN FOR THE INCIDENT AT THE QUICK DRAW 22 D # 1 BATTERY RELEASE, EDDY COUNTY, NEW MEXICO

Dear Mr. Bratcher,

On behalf of Mewbourne Oil Company (Mewbourne), Souder, Miller & Associates (SMA) has prepared this WORK PLAN that describes the assessment, initial delineation and proposed remediation for a release associated with the Quick Draw 22 D #1 Battery release. The site is in UNIT D, SECTION 22, TOWNSHIP 20S, RANGE 25E, NMPM, Eddy County, New Mexico, on State land. Figure 1 illustrates the vicinity and location of the site.

Table 1, below, summarizes information regarding the release.

Table 1: Release information and Site Ranking	
Name	Quick Draw 22 D #1 Battery
Company	Mewbourne Oil Company
RP Number	2RP-4304
API Number	30-015-37377
Location	32.564940° -104.480340°
Estimated Date of Release	7/22/17
Date Reported to NMOCD	7/22/17
Land Owner	Federal
Reported To	Mike Bratcher
Source of Release	Lightning Strike
Released Material	Oil
Released Volume	15 bbls
Recovered Volume	10 bbls
Net Release	5 bbls
Nearest Waterway	0.4 Miles from South Seven Rivers
Depth to Groundwater	Estimated to be greater than 100’
Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	0
SMA Response Dates	Initial: 8/22/17

1.0 Background

The tank battery was struck by lightning causing a release into a lined secondary containment and south of containment. The battery tanks and secondary containment was removed after release.

2.0 Site Ranking and Land Jurisdiction

The release site is located approximately 5.1 miles west of the Pecos River, with an elevation of approximately 3,450 feet above sea level. SMA searched the New Mexico State Engineer's Office (NMOSE) online water well database for water wells in the vicinity of the release. 13 wells are located within a three-mile radius of the site. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be greater than 100 feet below ground surface (bgs).

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

Table 2.

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

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

3.0 Release Characterization

On August 22/30, 2017 and after receiving 811 clearance, SMA field personnel assessed the release area. Soil samples were field-screened using an EC meter. Samples were collected to characterize and delineate the release. All samples were collected and processed according to NMOCD soil sampling procedures. The samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analyses including chlorides by Method 300.0, volatile organics (BTEX) by

Method 8021B, and MRO, DRO, and GRO by EPA Method 8015D. Sample locations are depicted on Figure 2. All field screening and laboratory results are summarized in Table 3. Laboratory reports are included in Appendix C.

4.0 Soil Remediation Workplan

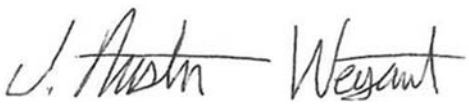
SMA will begin the excavation of affected soils, with approval from area utilities owners via 811 and NMOCD. SMA will continuously guide the excavation activities by collecting composite soil samples for field screening with a mobile titration unit (EPA 4500) and a calibrated PID. A surface scrap will occur over the whole release area within the pasture. Excavation will occur to depths of four feet bgs within the spill area around L4 and L5 within the pasture shown in Figure 2. A plastic 40 mill liner will be added around L4 to cap the impacted soils below. Affected soils will be removed from the area before closure samples are collected at the final depth of excavation and from the sidewalls. Approximately 165 cubic yards of contaminated soil are projected to be removed and replaced with clean backfill material to return the surface to previous contours. The contaminated soil will be transported for proper disposal at Lea Land, near Carlsbad, NM, an NMOCD permitted disposal facility.

5.0 Scope and Limitations

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

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

Submitted by:
SOUDER, MILLER & ASSOCIATES



Austin Weyant
Project Scientist

Reviewed by:

Jennifer Knowlton, PE
Senior Engineer II

ATTACHMENTS:

Figures:

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

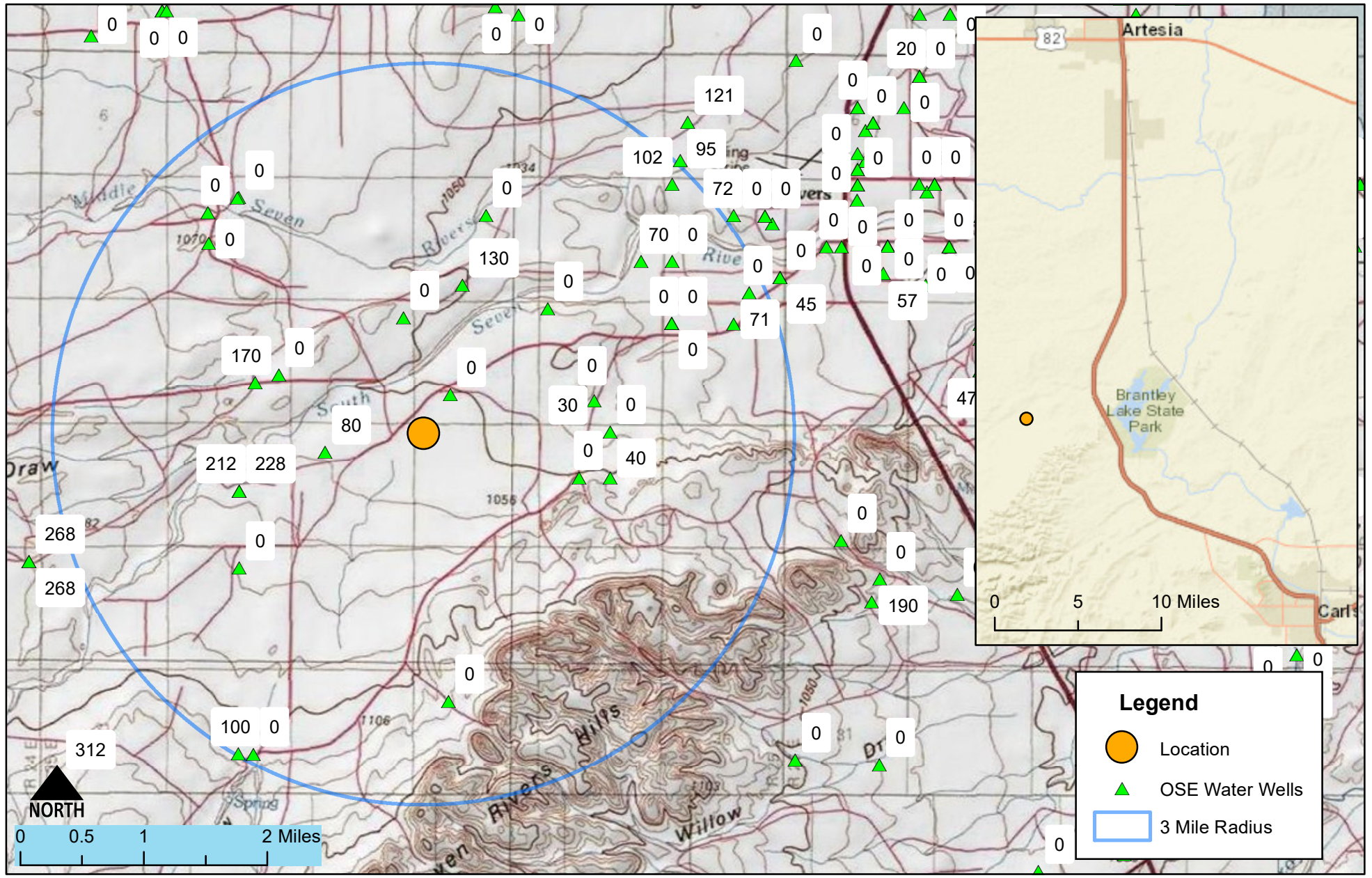
Tables:

Table 3: Summary of Sample Results

Appendices:

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

FIGURE 1
VICINITY AND NMOSE DATA MAP



Vicinity and Well Head Protection Map
Quick Draw 22 D #1 Battery- Mewbourne
S:22 T20S R25E, New Mexico

Figure 1

Document: C:\Users\lcm.CBO\Documents\GIS DATA\MAPS\quick draw figure 1.mxd

Date Saved: 9/25/2017

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

Drawn Lucas Middleton
Checked
Approved

SMA
201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689.7040
www.soudermiller.com
Serving the Southwest & Rocky Mountains

FIGURE 2
SITE AND SAMPLE LOCATION MAP

SITE AND SAMPLE LOCATION MAP
Quick Draw 22 D #1 Battery- Mewbourne
S:22 T20S R25E, New Mexico

Figure 2

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

Drawn Lucas Middleton
Checked
Approved

201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689.7040
www.soudermiller.com
Serving the Southwest & Rocky Mountains

Date Saved: 9/27/2017

Document: C:\Users\lcm.CBO\Documents\GIS DATA\MAPS\quick draw figure 2.mxd

TABLE 3
SUMMARY SAMPLE RESULTS

QUICK DRAW 22 D # 1 BATTERY

Table 3

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- Field Screens (ppm)	Cl- Laboratory mg/Kg
NMOCD RRAL's for Site Ranking 0				50 mg/Kg	10 mg/Kg				5000 mg/Kg		
L1	8/30/2017	0.5	in-situ	--	--	--	--	--	--	--	--
		2	in-situ	<0.098	<0.024	<4.9	96	57	153	359	--
		4	in-situ	--	--	--	--	--	--	244	--
		6	in-situ	--	--	<4.6	<10	<50	<50	--	--
		10	in-situ	--	--	--	--	--	--	--	63
L2	8/30/2017	2	in-situ	--	--	--	--	--	--	--	--
		4	in-situ	--	--	--	--	--	--	932	--
L3	8/30/2017	2	in-situ	--	--	--	--	--	--	144	--
L4	8/30/2017	0.5	Excavate	<0.093	<0.023	<4.7	<10	<50	<50	--	160
		2	Excavate	--	--	--	--	--	--	4,128	--
		4	Excavate	--	--	--	--	--	--	5,218	--
		6	Cap	--	--	--	--	--	--	4,687	4900
		8	in-situ	--	--	--	--	--	--	5,461	--
		12	in-situ	--	--	--	--	--	--	--	260
L6	8/30/2017	0.5	in-situ	--	--	--	--	--	--	<216	94

"--" = Not Analyzed

APPENDIX A
FORM C141 INITIAL

NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 24 2017
RECEIVED

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

nAB1720628182

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: Mewbourne Oil Company 14744	Contact: Zack Thomas
Address: PO Box 5270 Hobbs NM 88241	Telephone No. 575-393-5905
Facility Name: Quick Draw 22 D #1 Battery	Facility Type: Producing Oil Well

Surface Owner: BLM	Mineral Owner:	API No. 30-015-37377

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	22	20S	25E	330'	North	330'	West	Eddy

Latitude 32.5651817 **Longitude** -104.480072

NATURE OF RELEASE

Type of Release: Oil	Volume of Release: estimated 15 bbls oil	Volume Recovered: 10 bbls oil
Source of Release: Tank Battery	Date and Hour of Occurrence 7-22-17 12:45 pm	Date and Hour of Discovery 7-22-17 12:45 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Shelly Tucker, BLM Mike Bratcher, NMOCD	
By Whom? Zack Thomas	Date and Hour 7-22-17 3:40 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Lightning struck tank battery causing fire. Well was shut-in and all separation equipment isolated. Atoka, La Huerta, and Riverside Fire Departments were dispatched to put out fire.

Describe Area Affected and Cleanup Action Taken.*

Affected area- Lined secondary containment as well as a 10' x 40' area South of tanks on pad surface. Vacuum truck used to recover all standing fluid.

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: Z. Thomas

Printed Name: Zack Thomas

Title: Environmental Rep.

E-mail Address: zthomas@mewbourne.com

Date: 7-24-17 Phone: 575-602-2188

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Signed By

Approval Date: 7/25/17 Expiration Date: N/A

Conditions of Approval: See attached

Attached ☐

* Attach Additional Sheets If Necessary

Please refer to the New Mexico Oil Conservation Division Website for updated form(s) at: http://www.emnrd.state.nm.us/OCD/forms.html Thank you

2RP - 4304

7/25/17 AB

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 7/24/2017 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4304 has been assigned. **Please refer to this case number in all future correspondence.**

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

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

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in ARTESIA on or before 8/24/2017. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

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

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), 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

Bratcher, Mike, EMNRD

From: Zack Thomas <zthomas@mewbourne.com>
Sent: Monday, July 24, 2017 3:55 PM
To: Tucker, Shelly; Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD
Subject: Quick Draw 22 D #1 Batt.
Attachments: C141- Quick Draw 22 D #1 (7-22-17) Initial.pdf

Dear Colleagues,

Attached is the C141 from the battery fire that occurred due to lightning. I was unable to get ahold of anyone with district 2 OCD in order to give 24 hour notice but I left a message with Mike and Ray. If there are any questions or concerns please let me know.

Zack Thomas
Environmental Rep.
Mewbourne Oil Company
PO Box 5270
Hobbs, NM 88241 US

Phone: (575) 393-5905 | Fax: (575) 397-6252
(575) 602-2188
Email: zthomas@Mewbourne.com

MEWBOURNE
OIL COMPANY

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-basin	Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
RA 05227			ED			1	21	20S	25E	547506	3602926*	1329	100	80	20
RA 05973			ED		4	3	10	20S	25E	549280	3605111	1965	200	130	70
RA 06504			ED			3	14	20S	25E	550704	3603718*	1965	100		
RA 10141			ED	3	4	1	23	20S	25E	550815	3602617*	2092	245		
RA 05274			ED	2	4	3	14	20S	25E	551005	3603618*	2237	100	30	70
RA 04349			ED	4	1	4	17	20S	25E	546587	3603827*	2305	231	170	61
RA 10142			ED	1	1	2	23	20S	25E	551213	3603218*	2406	91		
RA 05972			ED	3	3	2	23	20S	25E	551217	3602617*	2480	170	40	130
RA 05038			ED	1	1	4	20	20S	25E	546390	3602416*	2541	314	228	86
RA 10618			ED	1	1	4	20	20S	25E	546389	3602414	2542	342	212	130
RA 10779			ED	1	3	2	10	20S	25E	549580	3606026*	2926	1300		
RA 09978			ED	3	1	2	29	20S	25E	546393	3601410*	3007	350		
RA 10918 POD1			ED	3	2	4	11	20S	25E	551600	3605434*	3574	694	70	624
RA 03265			ED	1	2	3	08	20S	25E	545972	3605636*	3735	150		
RA 01952			ED	3	1	3	12	20S	25E	552005	3605437*	3900			
RA 05666			ED	3	1	2	08	20S	25E	546342	3606233	3905	249	249	0
RA 10718			ED	3	1	2	13	20S	25E	552812	3604632*	4252	640	71	569
RA 10817			ED	1	1	1	12	20S	25E	552002	3606443*	4550	743	102	641
RA 04501			ED	4	3	4	12	20S	25E	553011	3605035*	4585	100		
RA 05458			ED		3	3	01	20S	25E	552101	3606747*	4838	500	95	405
C 03245		C	ED	3	1	4	32	20S	25E	546395	3598990*	4855	253	100	153
RA 10818			ED	1	3	2	12	20S	25E	552807	3606039*	4903	692	72	620

***UTM location was derived from PLSS - see Help**

Average Depth to Water: **117 feet**

Minimum Depth: **30 feet**

Maximum Depth: **249 feet**

Record Count: 22

UTMNAD83 Radius Search (in meters):

Easting (X): 548806.63 **Northing (Y):** 3603203.82 **Radius:** 5000

APPENDIX C

LABORATORY ANALYTICAL REPORTS

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

September 27, 2017

Austin Weyant

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

RE: Quick Draw OrderNo.: 1709048

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 7 sample(s) on 9/1/2017 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L4-0.5
Project: Quick Draw
Collection Date: 8/30/2017 1:45:00 PM
Lab ID: 1709048-001
Matrix: SOIL
Received Date: 9/1/2017 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	160	30		mg/Kg	20	9/11/2017 10:05:36 PM	33808
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/7/2017 1:14:31 PM	33721
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/7/2017 1:14:31 PM	33721
Surr: DNOP	102	70-130		%Rec	1	9/7/2017 1:14:31 PM	33721
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/5/2017 7:16:53 PM	33682
Surr: BFB	80.2	54-150		%Rec	1	9/5/2017 7:16:53 PM	33682
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	9/5/2017 7:16:53 PM	33682
Toluene	ND	0.047		mg/Kg	1	9/5/2017 7:16:53 PM	33682
Ethylbenzene	ND	0.047		mg/Kg	1	9/5/2017 7:16:53 PM	33682
Xylenes, Total	ND	0.093		mg/Kg	1	9/5/2017 7:16:53 PM	33682
Surr: 4-Bromofluorobenzene	123	66.6-132		%Rec	1	9/5/2017 7:16:53 PM	33682

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 Quanitative 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: L1-2
Project: Quick Draw
Collection Date: 8/30/2017 12:55:00 PM
Lab ID: 1709048-002
Matrix: SOIL
Received Date: 9/1/2017 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	69	9.4		mg/Kg	1	9/7/2017 1:36:48 PM	33721
Motor Oil Range Organics (MRO)	57	47		mg/Kg	1	9/7/2017 1:36:48 PM	33721
Surr: DNOP	106	70-130		%Rec	1	9/7/2017 1:36:48 PM	33721
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/5/2017 7:40:44 PM	33682
Surr: BFB	83.8	54-150		%Rec	1	9/5/2017 7:40:44 PM	33682
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/5/2017 7:40:44 PM	33682
Toluene	ND	0.049		mg/Kg	1	9/5/2017 7:40:44 PM	33682
Ethylbenzene	ND	0.049		mg/Kg	1	9/5/2017 7:40:44 PM	33682
Xylenes, Total	ND	0.098		mg/Kg	1	9/5/2017 7:40:44 PM	33682
Surr: 4-Bromofluorobenzene	121	66.6-132		%Rec	1	9/5/2017 7:40:44 PM	33682

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 Quanitative 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: L1-6
Project: Quick Draw
Collection Date: 8/30/2017
Lab ID: 1709048-003
Matrix: SOIL
Received Date: 9/1/2017 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/7/2017 1:58:56 PM	33721
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/7/2017 1:58:56 PM	33721
Surr: DNOP	108	70-130		%Rec	1	9/7/2017 1:58:56 PM	33721
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/5/2017 8:04:35 PM	33682
Surr: BFB	80.1	54-150		%Rec	1	9/5/2017 8:04:35 PM	33682

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 Quanitative 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: L1-10
Project: Quick Draw
Collection Date: 8/30/2017 1:10:00 PM
Lab ID: 1709048-004
Matrix: SOIL
Received Date: 9/1/2017 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	63	30		mg/Kg	20	9/11/2017 10:18:01 PM	33808

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 Quanitative 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: L6-0.5
Project: Quick Draw
Collection Date: 8/30/2017 2:12:00 PM
Lab ID: 1709048-005
Matrix: SOIL
Received Date: 9/1/2017 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	94	30		mg/Kg	20	9/11/2017 10:30:26 PM	33808

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 Quanitative 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: L4-6
Project: Quick Draw
Collection Date: 8/30/2017 1:48:00 PM
Lab ID: 1709048-006
Matrix: SOIL
Received Date: 9/1/2017 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	4900	150		mg/Kg	100	9/26/2017 12:04:10 AM	33808

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 Quanitative 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: L4-12
Project: Quick Draw
Collection Date: 8/30/2017 2:12:00 PM
Lab ID: 1709048-007
Matrix: SOIL
Received Date: 9/1/2017 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	260	30		mg/Kg	20	9/13/2017 1:24:50 PM	33817

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 Quanitative 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#: **1709048**

27-Sep-17

Client: Souder, Miller & Associates

Project: Quick Draw

Sample ID	**MB-33808**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**33808**	RunNo:	**45542**					
Prep Date:	**9/11/2017**	Analysis Date:	**9/11/2017**	SeqNo:	**1444864**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-33808**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**33808**	RunNo:	**45542**					
Prep Date:	**9/11/2017**	Analysis Date:	**9/11/2017**	SeqNo:	**1444865**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.2	90	110			

Sample ID	**MB-33817**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**33817**	RunNo:	**45597**					
Prep Date:	**9/12/2017**	Analysis Date:	**9/13/2017**	SeqNo:	**1447722**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-33817**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**33817**	RunNo:	**45597**					
Prep Date:	**9/12/2017**	Analysis Date:	**9/13/2017**	SeqNo:	**1447723**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.0	90	110			

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 Quanitative 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#: **1709048**

27-Sep-17

Client: Souder, Miller & Associates

Project: Quick Draw

Sample ID	**LCS-33721**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**33721**		RunNo:	**45469**				
Prep Date:	**9/6/2017**	Analysis Date:	**9/7/2017**		SeqNo:	**1440795**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	88.0	73.2	114			
Surr: DNOP	4.8		5.000		96.9	70	130			

Sample ID	**MB-33721**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**33721**		RunNo:	**45469**				
Prep Date:	**9/6/2017**	Analysis Date:	**9/7/2017**		SeqNo:	**1440796**	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	11		10.00		108	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative 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#: **1709048**

27-Sep-17

Client: Souder, Miller & Associates

Project: Quick Draw

Sample ID	**MB-33682**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**33682**	RunNo:	**45408**					
Prep Date:	**9/1/2017**	Analysis Date:	**9/5/2017**	SeqNo:	**1439055**	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	820		1000		82.4	54	150			

Sample ID	**LCS-33682**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**33682**	RunNo:	**45408**					
Prep Date:	**9/1/2017**	Analysis Date:	**9/5/2017**	SeqNo:	**1439056**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.3	76.4	125			
Surr: BFB	910		1000		90.9	54	150			

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 Quanitative 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#: **1709048**

27-Sep-17

Client: Souder, Miller & Associates

Project: Quick Draw

Sample ID	**MB-33682**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**33682**	RunNo:	**45408**					
Prep Date:	**9/1/2017**	Analysis Date:	**9/5/2017**	SeqNo:	**1439078**	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	1.3		1.000		128	66.6	132			

Sample ID	**LCS-33682**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**33682**	RunNo:	**45408**					
Prep Date:	**9/1/2017**	Analysis Date:	**9/5/2017**	SeqNo:	**1439079**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	113	80	120			
Toluene	1.1	0.050	1.000	0	113	80	120			
Ethylbenzene	1.1	0.050	1.000	0	112	80	120			
Xylenes, Total	3.4	0.10	3.000	0	115	80	120			
Surr: 4-Bromofluorobenzene	1.3		1.000		128	66.6	132			

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 Quanitative 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

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: 1709048 RcptNo: 1

Received By: Erin Melendrez 9/1/2017 8:45:00 AM

Completed By: Ashley Gallegos 9/1/2017 12:32:52 PM

Reviewed By: 9/1/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Yes			

Chain-of-Custody Record

Client: SMA

Mailing Address: 201 S HALAGUENO

Phone #: 575 689-7040

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: QUICK DRAW

Project #:

Project Manager: AUSTIN WEYANT

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.8 - 0.1 (CF) = 1.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709048	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)					Air Bubbles (Y or N)
8/30	1:45	SOIL	L4 - 0.5	1 4oz		-001	X		X									X CL - EPA 300				
	12:55		L1 - 2			-002	X		X													
			L1 - 6			-003			X													
	1:10		L1 - 10			-004												X				
	2:12		L6 - 0.5			-005												X				
	1:48		L4 - 6			-006												X				
	2:12		L4 - 12			-007												X				
						~~-008~~																

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
8/31/17	0830	J. Hall		8/31/17	0930	
8/31/17	1900			09/01/17	0845	

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