Judah Oil, LLC
P.O. Box 568
Artesia, NM 88210

cell: 575-748-5488
office: 575-748-4730
fax: 575-748-4731

judahoil@yahoo.com

July 14, 2020

NM OCD District II
Mike Bratcher
811 S. 1st St.
Artesia, NM 88210

Dear Mr. Bratcher,

Please find attached the closure report on the Ford State #2. We had been under the impression that SMA would be submitting the document, but after an evaluation, we noticed it had never been submitted. We apologize for the confusion, and hope all information required is herein.

Should you have any questions, please contact Mr. Campanella at 575-748-5488. Have a blessed day.

Sincerely,

Ashlie Quinones
Office manager

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

November 29, 2017

#5B25501-BG7

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

SUBJECT: SOIL REMEDIATION CLOSURE REPORT FOR INCIDENT NUMBER 2RP-4390 AT THE FORD STATE #2, EDDY COUNTY, NEW MEXICO

Dear Mr. Bratcher:

On behalf of Judah Oil LLC, Souder, Miller & Associates (SMA) has prepared this CLOSURE REPORT that describes the assessment, initial delineation and remediation for a release associated with the Ford State #2. The site is located in UNIT F, SECTION 2, TOWNSHIP 22S, RANGE 28E, 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	Ford State #2
Company	Judah Oil LLC
Incident Number	2RP-4390
API Number	30-015-22714
Location	32.42498, -104.06184
Estimated Date of Release	8/7/2017
Date Reported to NMOCD	8/7/2017
Land Owner	State
Reported To	NMOCD District II
Source of Release	Flowline
Released Material	Produced Water
Released Volume	5 bbl
Recovered Volume	3 bbl
Net Release	2 bbl
Nearest Waterway	5 Miles West of Location
Depth to Groundwater	Estimated to be greater than 100'
Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	0
SMA Response Dates	8/7/2017, 8/14/2017, 10/13/2017, 11/14/2017

1.0 Background

A flowline leak occurred along the surface located approximately 350' west of the Ford State #2. The release occurred in between the buried rights-of-way (ROWs) of a DCP high pressure line and an XTO fiberglass water line, with some also in the lease road that leads to the Ford State #1 well pad. The surface impact is approximately 50 feet long by 5 feet wide.

2.0 Site Ranking and Land Jurisdiction

The release site is located approximately nine miles east of Carlsbad, with an elevation of approximately 3,162 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. Eight wells are located within a three-mile radius of the site. In the work plan, the site was originally categorized as a Site Ranking of 10, based on depths of wells in the area. However, upon further investigation, it was determined that depth to groundwater is in fact much deeper, as the wells used for the original ranking were from soil delineation bore holes. A log from a 2013 well (CP 01171) can be found approximately 1000 meters north of the spill location. The log indicates no groundwater after 115 feet of drilling. Therefore, depth to groundwater is estimated to be 115 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 14, 2017 after receiving 811 clearance, SMA field personnel assessed the release area. Soil samples were field-screened using an EC meter. Three sample locations were augered by hand to a maximum depth of 1.5 feet bgs, at which point a hard pan caliche layer was encountered. 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 analysis for MRO, DRO, and GRO by EPA Method 8015D (sample L2 only), BTEX by EPA Method 8021 (sample L2 only), and Chlorides by Method 300. 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.

Based on the delineation results, further excavation was needed, but would be limited due to the buried pipelines. Due to these limitations, NMOCD agreed to allow a hydro-excavation remediation action.

4.0 Soil Remediation

On October 4, 2017, SMA personnel was on location to oversee hydro-excavation of the location. Hydrovac operators were able to excavate the north side (L3) to a depth of 1.5 feet bgs, and the south end (L2) to a depth of 2 feet bgs, before meeting refusal due to the hardpan rock. The impacted area on the lease road (L1) was not excavated due to the buried polyline directly beneath this location. Contaminated soils were removed and transported to an NMOCD permitted facility. Following the hydro-excavation, the site was allowed to dry out, then on October 13, 2017 confirmation samples were collected from L2 and L3. On November 14, 2017, at the request of NMOCD, L1 was further delineated to one foot. Due to the hardpan rock layer and the proximity of buried pipelines, further remediation and delineation at this location is not practicable and a deferral is requested. On November 15, 2017 backfill was granted by NMOCD.

5.0 Scope and Limitations

The scope of our services consisted of the performance of assessment and confirmation sampling, verification of release stabilization, regulatory liaison, and preparation of this closure report. 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 Ashley Maxwell at 505-320-9241 or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Ashley Maxwell
Project Manager

Reviewed by:

Shawna Chubbuck
Senior Scientist

ATTACHMENTS:

Figures:

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

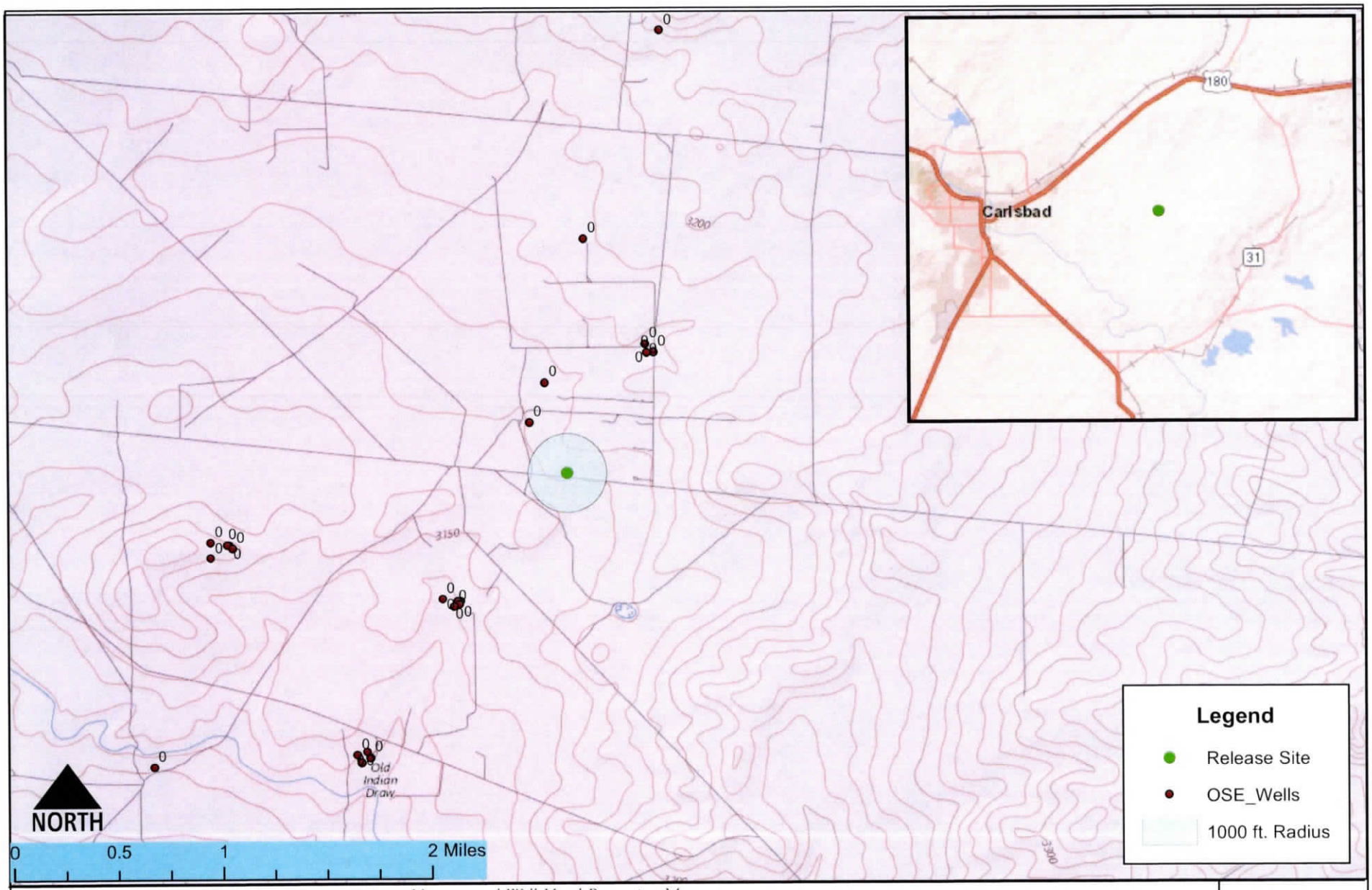
Tables:

Table 3: Summary of Sample Results

Appendices:

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

FIGURE 1
VICINITY AND NMOSE DATA MAP



Vicinity and Well Head Protection Map
Ford State #2 - Judah Oil
F 2-T22S-R28E, New Mexico

Figure 1

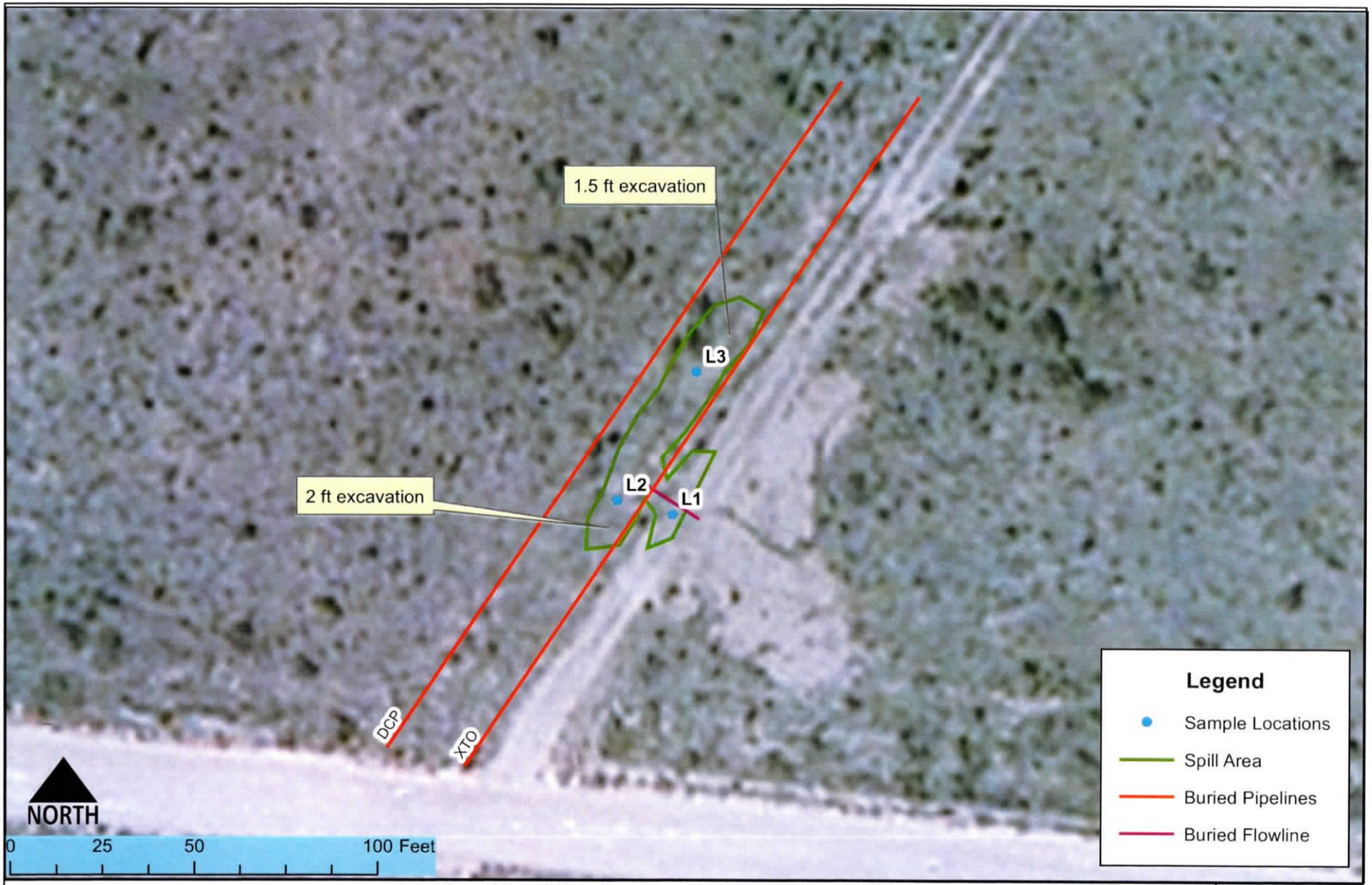
Date Saved: 8/18/2017

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

Drawn Heather Patterson
Checked
Approved

SMA
201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689-7040
www.soundermiller.com
Serving the Southwest & Rocky Mountains

FIGURE 2
SITE AND SAMPLE LOCATION MAP



Site and Sample Location Map
Ford State #2 - Judah Oil
F 2-T22S-R28E, New Mexico

Figure 2

Date Saved: 11/30/2017

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

Drawn Heather Patterson
Checked
Approved

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Carlsbad, New Mexico 88221
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TABLE 3
SUMMARY SAMPLE RESULTS

Ford State #2

Table 3.

Sample Number on Figure 2	Sample Date	Depth (feet bgs)	Action Taken	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- Field Screens (ppm)	Cl- Laboratory mg/Kg
NMOCD RRAL's for Site Ranking 0				50 mg/Kg	10 mg/Kg				5000 mg/Kg		
L1	8/14/2017	0.5	in-situ	--	--	--	--	--	--	3030	5100
	11/14/2017	1	in-situ	--	--	--	--	--	--	884	--
L2	8/14/2017	0.5	excavated	<0.097	<0.024	<4.8	<9.7	<48	<63	6261	9500
	8/14/2017	1	excavated	--	--	--	--	--	--	6592	--
	8/14/2017	1.5	excavated	--	--	--	--	--	--	6911	10000
	10/13/2017	2	in-situ	--	--	--	--	--	--	1922	2700
L3	8/14/2017	1	excavated	--	--	--	--	--	--	7094	8500
	10/13/2017	1.5	in-situ	--	--	--	--	--	--	484	220

"--" = Not Analyzed

APPENDIX A
FORM C141 INITIAL AND FINAL

NM OIL CONSERVATION
ARTESIA DISTRICT
AUG 17 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 April 3, 2017

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

Release Notification and Corrective Action

nAB1726253807

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Judah Oil 245872	Contact Blaise Campanella
Address PO BOX 568, Artesia NM, 88221	Telephone No. 575-748-5488
Facility Name Ford State #2	Facility Type oil

Surface Owner State	Mineral Owner	API No. 30-015-22714

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	02	22s	28e	1650	FNL	1650	FWL	Eddy

Latitude 32.42498 Longitude -104.06184 NAD83

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 6bbl	Volume Recovered 3bbl
Source of Release flowline	Date and Hour of Occurrence	Date and Hour of Discovery 08/07/2017
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Crystal Weaver	
By Whom? Blaise Campanella	Date and Hour 08/07/2017 1pm	
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.*

Flowline ruptured because of a bad swedge. The line was repaired and a vac truck was called to collect free liquids. 811 called in.

Describe Area Affected and Cleanup Action Taken.*

Area affected is approximately 5' x 60' and follows along the ROWs of two pipelines. Further remediation efforts will be per an NMOCD approved work plan.

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:

Printed Name: Blaise Campanella

Title: Member/Manager

E-mail Address: judahoil@yahoo.com

Date: 8/10/2017 Phone: 575-748-5488

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 9/19/17 Expiration Date: N/A

Conditions of Approval: see attached

Attached: RP-4390

* Attach Additional Sheets If Necessary

9/19/17 AS

Operator/Responsible Party,

The OCD has received the form C-141 you provided on **8/17/17** regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4390 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 9/30/17. 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

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Judah Oil 245872	Contact Blaise Campanella
Address PO Box 568, Artesia, NM, 88211	Telephone No. 575-748-5488
Facility Name Ford State #2	Facility Type oil

Surface Owner State	Mineral Owner	API No. 30-015-22714

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	02	22s	28e					

Latitude 32.42498 **Longitude** -104.06184 NAD83

NATURE OF RELEASE

Type of Release PW	Volume of Release 6bbl	Volume Recovered 3 bbl
Source of Release flowline	Date and Hour of Occurrence 8/7//2017	Date and Hour of Discovery 8/7/2017
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Crystal Weaver	
By Whom?	Date and Hour 8/7/2017 in the 1pm	
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.*

Flowline ruptured, the polyline was immediately repaired and discharge ceased. Vac truck called to collect free liquids. 811 called in

Describe Area Affected and Cleanup Action Taken.*
Area affected is approximately 5' x 60' and follows along the ROWs of two pipelines. Site was remediated as per NMOCD approved work plan. Request deferral of remaining clean up until site abandonment.

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: [redacted]

Printed Name: Blaise Campanella

Title: Member/Manager

E-mail Address: judahoil@yahoo.com

Date: 11/14/2017 Phone: 575-748-5488

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Karen Collins

Approval Date: 6/18/2021 Expiration Date:

Conditions of Approval:
Site to be cleaned up according to regulations upon plugging.

Attached ☐

* Attach Additional Sheets If Necessary

2RP-4390

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
CP 01171 POD1			ED		1	4	35	21S	28E	588814	3588862	1074	70		
CP 01171 POD3			ED		1	4	35	21S	28E	588814	3588862	1074	115		
CP 01171 POD2			ED		1	4	35	21S	28E	588866	3588862	1102	110		
C 03533 POD1		C	ED	3	4	4	03	22S	28E	587377	3586934	1342	55		
C 03533 POD2		C	ED	3	4	4	03	22S	28E	587358	3586935	1355	55		
C 03533 POD3		C	ED	3	4	4	03	22S	28E	587370	3586911	1364	55		
C 03533 POD4		C	ED	4	3	4	03	22S	28E	587331	3586892	1404	55		
C 03534 POD1		C	ED	4	3	4	03	22S	28E	587240	3586950	1427	150		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 8

UTMNAD83 Radius Search (in meters):

Easting (X): 588277.25 **Northing (Y):** 3587930.79 **Radius:** 5000

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

2013 JUN 10 P 1:20

1. GENERAL AND WELL LOCATION

OSE POD NUMBER (WELL NUMBER): (POD3) INDIAN FLATS BASS FED SWD SB-10	OSE FILE NUMBER(S): CP 01171
WELL OWNER NAME(S): BOPCO OPERATING CO	PHONE (OPTIONAL):
WELL OWNER MAILING ADDRESS: 6 DESTA DRIVE, SUITE 3700, P.O. BOX 2760	CITY: MIDLAND STATE: TX ZIP: 79702

WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS	
LATITUDE	32	26	01	N
LONGITUDE	104	03	19	W

* ACCURACY REQUIRED ONE TENTH OF A SECOND
* DATUM REQUIRED WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

62/140 & MM 43 GO 4.3 MI VEER L & GO E 1.2 MI TURN L GO N TURN INTO SITE. SEC 35, TWP 21S, RANGE 28 E.

2. DRILLING & CASING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD1478	MARTIN STRAUB	STRAUB CORPORATION

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
5-31-13	5-31-13	0'	115'	N/A

COMPLETED WELL IS: ( ) ARTESIAN ( ) DRY HOLE (•) SHALLOW (UNCONFINED) — STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A

DRILLING FLUID: (•) AIR ( ) MUD ADDITIVES – SPECIFY:

DRILLING METHOD: (•) ROTARY ( ) HAMMER ( ) CABLE TOOL ( ) OTHER – SPECIFY

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	115'	5"	N/A	N/A	N/A	N/A	N/A

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	2'	5"	.5 OF CONCRETE		TOPLOAD
2'	115'	5"	30 BAGS OF 3/8 HOLEPLUG		TOPLOAD

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	CP-1171	POD NUMBER	3	TRN NUMBER	527952
LOCATION	Exp1	21S.28E.35.41			PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	8'	8'	TAN FINE SAND - CALICHE - CEMENT SANDSTONE	○ Y ◉ N	N/A
8'	13'	5'	TAN FINE SAND - CEMENT SANDSTONE	○ Y ◉ N	N/A
13'	52'	39'	RED FINE SAND - SANDSTONE - P GRAVEL (LAYERS)	○ Y ◉ N	N/A
52'	63'	11'	RED SILTY SAND SILTY CLAY	○ Y ◉ N	N/A
63'	86'	23'	RED SILTY SAND - SILTY SANDSTONE - P GRAVEL	○ Y ◉ N	N/A
86'	108'	22'	TAN FINE SAND - SANDSTONE (SILICEOUS)	○ Y ◉ N	N/A
108'	115'	7'	RED AND TAN FINE SAND (LAYERS) SANDSONE	○ Y ◉ N	N/A
TD	115'			○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	
				○ Y ○ N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: ○ PUMP ○ AIR LIFT ○ BAILER ○ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm):

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

SOIL BORING ONLY - SOIL BORING WAS PLUGGED AND ABANDONED UPON COMPLETION OF SAMPLING.
EDDY COUNTY, NM.
EDWARD BRYAN (DRILLING RIG SUPERVISOR)

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

Martin Straub — MARTIN STRAUB — 6-6-13

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	POD NUMBER	TRN NUMBER	
LOCATION			PAGE 2 OF 2

APPENDIX C

LABORATORY ANALYTICAL REPORTS

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

September 08, 2017

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

RE: Ford State 2 OrderNo.: 1708957

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 4 sample(s) on 8/16/2017 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

Analytical Report
Lab Order **1708957**
Date Reported: **9/8/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Ford State 2
Lab ID: 1708957-001 **Matrix:** SOIL

Client Sample ID: L1-0.5
Collection Date: 8/14/2017 12:00:00 PM
Received Date: 8/16/2017 9:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	5100	150		mg/Kg	100	8/24/2017 5:47:22 PM	33527

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

Analytical Report
Lab Order **1708957**
Date Reported: **9/8/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Ford State 2
Lab ID: 1708957-002 **Matrix:** SOIL

Client Sample ID: L2-0.5
Collection Date: 8/14/2017 12:15:00 PM
Received Date: 8/16/2017 9:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	9500	300		mg/Kg	200	8/24/2017 5:59:47 PM	33527
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/22/2017 10:51:04 AM	33448
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/22/2017 10:51:04 AM	33448
Surr: DNOP	100	70-130		%Rec	1	8/22/2017 10:51:04 AM	33448
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/18/2017 2:25:19 PM	33432
Surr: BFB	88.1	54-150		%Rec	1	8/18/2017 2:25:19 PM	33432
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.097		mg/Kg	1	8/18/2017 2:25:19 PM	33432
Benzene	ND	0.024		mg/Kg	1	8/18/2017 2:25:19 PM	33432
Toluene	ND	0.048		mg/Kg	1	8/18/2017 2:25:19 PM	33432
Ethylbenzene	ND	0.048		mg/Kg	1	8/18/2017 2:25:19 PM	33432
Xylenes, Total	ND	0.097		mg/Kg	1	8/18/2017 2:25:19 PM	33432
Surr: 4-Bromofluorobenzene	102	66.6-132		%Rec	1	8/18/2017 2:25:19 PM	33432

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

Analytical Report
Lab Order **1708957**
Date Reported: **9/8/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Ford State 2
Lab ID: 1708957-003 **Matrix:** SOIL

Client Sample ID: L2-1.5
Collection Date: 8/14/2017 12:48:00 PM
Received Date: 8/16/2017 9:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	10000	750		mg/Kg	500	8/28/2017 7:03:54 PM	33527

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

Analytical Report
Lab Order **1708957**
Date Reported: **9/8/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: Ford State 2
Lab ID: 1708957-004 **Matrix:** SOIL

Client Sample ID: L3-1
Collection Date: 8/14/2017 1:05:00 PM
Received Date: 8/16/2017 9:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	8500	750		mg/Kg	500	8/24/2017 6:12:12 PM	33527

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#: **1708957**

08-Sep-17

Client: Souder, Miller & Associates

Project: Ford State 2

Sample ID **MB-33527**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **33527**	RunNo: **45191**
Prep Date: **8/23/2017**	Analysis Date: **8/23/2017**	SeqNo: **1431122** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID **LCS-33527**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **33527**	RunNo: **45191**
Prep Date: **8/23/2017**	Analysis Date: **8/23/2017**	SeqNo: **1431123** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.7	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#: **1708957**
08-Sep-17

Client: Souder, Miller & Associates
Project: Ford State 2

Sample ID **LCS-33448**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **33448**	RunNo: **45117**
Prep Date: **8/18/2017**	Analysis Date: **8/21/2017**	SeqNo: **1428776** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	101	73.2	114			
Surr: DNOP	3.9		5.000		77.7	70	130			

Sample ID **MB-33448**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **33448**	RunNo: **45117**
Prep Date: **8/18/2017**	Analysis Date: **8/21/2017**	SeqNo: **1428777** 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	8.4		10.00		84.0	70	130			

Sample ID **1708957-002AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **L2-0.5**	Batch ID: **33448**	RunNo: **45117**
Prep Date: **8/18/2017**	Analysis Date: **8/22/2017**	SeqNo: **1428905** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	9.5	47.66	4.544	97.5	55.8	122			
Surr: DNOP	4.6		4.766		95.8	70	130			

Sample ID **1708957-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **L2-0.5**	Batch ID: **33448**	RunNo: **45117**
Prep Date: **8/18/2017**	Analysis Date: **8/22/2017**	SeqNo: **1428906** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	9.8	49.07	4.544	102	55.8	122	6.45	20	
Surr: DNOP	4.8		4.907		97.3	70	130	0	0	

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

WO#: **1708957**

Hall Environmental Analysis Laboratory, Inc.

08-Sep-17

Client: Souder, Miller & Associates
Project: Ford State 2

Sample ID **MB-33432**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **33432**	RunNo: **45053**
Prep Date: **8/17/2017**	Analysis Date: **8/18/2017**	SeqNo: **1427097** 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	900		1000		89.8	54	150			

Sample ID **LCS-33432**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **33432**	RunNo: **45053**
Prep Date: **8/17/2017**	Analysis Date: **8/18/2017**	SeqNo: **1427098** 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	96.9	76.4	125			
Surr: BFB	980		1000		97.8	54	150			

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 Quanitative 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#: **1708957**
08-Sep-17

Client: Souder, Miller & Associates
Project: Ford State 2

Sample ID **MB-33432**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **33432**	RunNo: **45053**
Prep Date: **8/17/2017**	Analysis Date: **8/18/2017**	SeqNo: **1427128** 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		103	66.6	132			

Sample ID **LCS-33432**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **33432**	RunNo: **45053**
Prep Date: **8/17/2017**	Analysis Date: **8/18/2017**	SeqNo: **1427129** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.85	0.10	1.000	0	84.6	66.5	120			
Benzene	0.95	0.025	1.000	0	95.3	80	120			
Toluene	0.93	0.050	1.000	0	92.8	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.6	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.7	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	66.6	132			

Sample ID **1708957-002AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **L2-0.5**	Batch ID: **33432**	RunNo: **45053**
Prep Date: **8/17/2017**	Analysis Date: **8/18/2017**	SeqNo: **1427279** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.84	0.092	0.9208	0	91.2	72.5	138			
Benzene	0.89	0.023	0.9208	0	97.0	80.9	132			
Toluene	0.89	0.046	0.9208	0	96.8	79.8	136			
Ethylbenzene	0.92	0.046	0.9208	0	99.5	79.4	140			
Xylenes, Total	2.8	0.092	2.762	0.02034	99.4	78.5	142			
Surr: 4-Bromofluorobenzene	0.95		0.9208		103	66.6	132			

Sample ID **1708957-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **L2-0.5**	Batch ID: **33432**	RunNo: **45053**
Prep Date: **8/17/2017**	Analysis Date: **8/18/2017**	SeqNo: **1427280** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.88	0.093	0.9328	0	94.7	72.5	138	5.05	20	
Benzene	0.99	0.023	0.9328	0	106	80.9	132	10.3	20	
Toluene	0.99	0.047	0.9328	0	106	79.8	136	10.4	20	
Ethylbenzene	0.99	0.047	0.9328	0	106	79.4	140	7.52	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical 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#: **1708957**

08-Sep-17

Client: Souder, Miller & Associates

Project: Ford State 2

Sample ID **1708957-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **L2-0.5**	Batch ID: **33432**	RunNo: **45053**
Prep Date: **8/17/2017**	Analysis Date: **8/18/2017**	SeqNo: **1427280** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	3.0	0.093	2.799	0.02034	107	78.5	142	8.91	20	
Surr: 4-Bromofluorobenzene	0.98		0.9328		106	66.6	132	0	0	

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
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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: 1708957 RcptNo: 1

Received By: Erin Melendrez 8/16/2017 9:10:00 AM

Completed By: Ashley Gallegos 8/16/2017 10:50:50 AM

Reviewed By: ENM 8/17/17

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	2.6	Good	Yes			

Chain-of-Custody Record

Client: SMA

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Ford State #2

Project #:

Project Manager: Austin Wegant

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.6

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. 1708957	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)
8/14/17	12:00	Soil	L1 - 0.5	4oz		-001								X								
8/14/17	12:15	"	L2 - 0.5	"		-002	X		X					X								
"	12:48	"	L2 - 1.5	"		-003								X								
"	1:05	"	L3 - 1	"		-004								X								

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
8/15/17	1330			8/15/17	1330	
8/15/17	1900			8/16/17	0910	

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 25, 2017

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

RE: State Ford Judah 2nd SP OrderNo.: 1710884

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/17/2017 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

Analytical Report
Lab Order: **1710884**
Date Reported: **10/25/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: State Ford Judah 2nd SP
Lab Order: 1710884

Lab ID: 1710884-001 **Collection Date:** 10/13/2017 11:03:00 AM
Client Sample ID: L3-1.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	220	30		mg/Kg	20	10/20/2017 5:21:29 PM	34535

Lab ID: 1710884-002 **Collection Date:** 10/13/2017 11:08:00 AM
Client Sample ID: L2-2 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	2700	150		mg/Kg	100	10/24/2017 5:51:37 AM	34535

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

WO#: **1710884**

Hall Environmental Analysis Laboratory, Inc.

25-Oct-17

Client: Souder, Miller & Associates
Project: State Ford Judah 2nd SP

Sample ID **MB-34535** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **34535** RunNo: **46533**
Prep Date: **10/20/2017** Analysis Date: **10/20/2017** SeqNo: **1482732** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID **LCS-34535** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **34535** RunNo: **46533**
Prep Date: **10/20/2017** Analysis Date: **10/20/2017** SeqNo: **1482733** 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			

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: 1710884 RcptNo: 1

Received By: Richie Eriacho 10/17/2017 9:09:00 AM

Completed By: Ashley Gallegos 10/17/2017 9:12:43 AM

Reviewed By: 10/17/17

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 ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
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 ☐	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	3.3	Good	Yes			

Chain-of-Custody Record

Client: SMA

Mailing Address: 201 S. Halagueno

Phone #:

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☐ Rush 5 day turn

Project Name: StateFord-Judah 2nd SP

Project #:

Project Manager: Austin Weyant

Sampler: HMP

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.3

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. 1710884	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)
10/13/17	11:03	Soil	L3-1.5	4oz		-001								✓				
10/13/17	11:08	Soil	L2-2	4oz		-002								✓				

Remarks:

Date	Time	Relinquished by:	Received by:	Date	Time
10/16/17	1330			10/16/17	1330
10/16/17	1900			10/17/17	0909

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.

APPENDIX D
CORRESPONDENCE

Bratcher, Mike, EMNRD

From: Bratcher, Mike, EMNRD
Sent: Friday, September 29, 2017 1:27 PM
To: Heather Patterson; Weaver, Crystal, EMNRD
Cc: Austin Weyant; judahoil@yahoo.com; agroves@slo.state.nm.us
Subject: RE: Initial C141

RE: Judah Oil LLC * Ford 002 * 2RP-4390 * DOR: Discovered 8/7/17

Heather,

SMA's proposal for remediation of the above referenced release is approved. Please provide OCD with the field screen data obtained during hydrovac ops, for review, prior to backfilling. Please advise once remedial activities have been scheduled.

Thank you,

Mike Bratcher
NMOCD District 2
811 South First Street
Artesia, NM 88210
575-748-1283 Ext 108

From: Heather Patterson [mailto:heather.patterson@soudermiller.com]
Sent: Tuesday, September 26, 2017 11:40 AM
To: Weaver, Crystal, EMNRD <Crystal.Weaver@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Austin Weyant <austin.weyant@soudermiller.com>; judahoil@yahoo.com; agroves@slo.state.nm.us
Subject: RE: Initial C141

Good Morning,

Please find the attached the work plan for 2RP-4390.

As for 2RP-4081, I apologize for not send an update sooner. This past spring SMA scraped the location and hauled away the worst of the contaminated soils. We plan to pull our closure samples when we mobilize to clean the second release.

Thank you,

Heather Patterson
Staff Scientist
Souder, Miller & Associates
Engineering ♦ Environmental ♦ Surveying
201 Halagueno St
Carlsbad, NM 88220

Bratcher, Mike, EMNRD

From: Heather Patterson <heather.patterson@soudermiller.com>
Sent: Monday, November 13, 2017 3:31 PM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; 'Amber Groves'
Cc: Austin Weyant; james campanella
Subject: Ford State #2 2RP-4390 backfill request
Attachments: table 3.pdf; Ford State #2 fig 2.pdf

Good Afternoon,

After hydro-excavating this location, we still returned some elevated chlorides. Due to the proximity to pipelines and the hard-pan rock layer, further remediation is not practicable. At this time we would like to request backfill so we can then establish a healthy vegetative layer to aid in the stabilization of the remaining contaminants.

Thank you,

Heather Patterson
Staff Scientist
Souder, Miller & Associates
Engineering ♦ Environmental ♦ Surveying
201 Halagueno St
Carlsbad, NM 88220
www.soudermiller.com
(575)200-5343 (mobile)

Bratcher, Mike, EMNRD

From: Bratcher, Mike, EMNRD
Sent: Tuesday, November 14, 2017 7:14 AM
To: 'Heather Patterson'; Weaver, Crystal, EMNRD; 'Amber Groves'
Cc: Austin Weyant; james campanella
Subject: RE: Ford State #2 2RP-4390 backfill request

RE: 2RP-4390

Heather,

Is there any chance at all of getting a better delineation (with 600 mg/kg chloride being target goal) at L1 &/or L2?

Mike Bratcher
NMOCD District 2
811 South First Street
Artesia, NM 88210
575-748-1283 Ext 108

From: Heather Patterson [mailto:heather.patterson@soudermiller.com]
Sent: Monday, November 13, 2017 3:31 PM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Weaver, Crystal, EMNRD <Crystal.Weaver@state.nm.us>; 'Amber Groves' <agroves@slo.state.nm.us>
Cc: Austin Weyant <austin.weyant@soudermiller.com>; james campanella <judahoil@yahoo.com>
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Thank you,

Heather Patterson
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www.soudermiller.com
(575)200-5343 (mobile)

Bratcher, Mike, EMNRD

From: Heather Patterson <heather.patterson@soudermiller.com>
Sent: Tuesday, November 14, 2017 8:49 AM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; 'Amber Groves'
Cc: Austin Weyant; james campanella
Subject: RE: Ford State #2 2RP-4390 backfill request

Mike,

Unfortunately not at L2, but possibly at L1.

I won't be able to get any equipment safely in the area of L2, the hydrovac was the best option for that area and we now have it down to rock.

L1 is a small spot in the lease road, but it has the buried poly line beneath it. Again, equipment wouldn't be a great idea, but we could try to grab a sample by hand. At the time of sampling, 6" was the extent I could get with a rock bar, but Lucas is available today, so he can give it a try. We'll send you the field screen results.

Thanks,

Heather Patterson
Staff Scientist
Souder, Miller & Associates
Engineering ♦ Environmental ♦ Surveying
201 Halagueno St
Carlsbad, NM 88220
www.soudermiller.com
(575)200-5343 (mobile)

From: Bratcher, Mike, EMNRD [mailto:mike.bratcher@state.nm.us]
Sent: Tuesday, November 14, 2017 7:14 AM
To: Heather Patterson <heather.patterson@soudermiller.com>; Weaver, Crystal, EMNRD <Crystal.Weaver@state.nm.us>; 'Amber Groves' <agroves@slo.state.nm.us>
Cc: Austin Weyant <austin.weyant@soudermiller.com>; james campanella <judahoil@yahoo.com>
Subject: RE: Ford State #2 2RP-4390 backfill request

RE: 2RP-4390

Heather,

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Mike Bratcher
NMOCD District 2
811 South First Street

Bratcher, Mike, EMNRD

From: Heather Patterson <heather.patterson@soudermiller.com>
Sent: Tuesday, November 14, 2017 3:35 PM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; 'Amber Groves'
Cc: Austin Weyant; james campanella
Subject: RE: Ford State #2 2RP-4390 backfill request
Attachments: table 3.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Mike,

We returned to the location and were able to get L1 down to 1 foot bgs. The field screen results are in the attached table.

Let me know if you need anything else.

Thank you,

Heather Patterson
Staff Scientist
Souder, Miller & Associates
Engineering ♦ Environmental ♦ Surveying
201 Halagueno St
Carlsbad, NM 88220
www.soudermiller.com
(575)200-5343 (mobile)

From: Heather Patterson
Sent: Tuesday, November 14, 2017 8:54 AM
To: 'Bratcher, Mike, EMNRD' <mike.bratcher@state.nm.us>; Weaver, Crystal, EMNRD <Crystal.Weaver@state.nm.us>; 'Amber Groves' <agroves@slo.state.nm.us>
Cc: Austin Weyant <austin.weyant@soudermiller.com>; james campanella <judahoil@yahoo.com>
Subject: RE: Ford State #2 2RP-4390 backfill request

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L1 is a small spot in the lease road, but it has the buried poly line beneath it. Again, equipment wouldn't be a great idea, but we could try to grab a sample by hand. At the time of sampling, 6" was the extent I could get with a rock bar, but Lucas is available today, so he can give it a try. We'll send you the field screen results.

Bratcher, Mike, EMNRD

From: Bratcher, Mike, EMNRD
Sent: Wednesday, November 15, 2017 8:34 AM
To: 'Heather Patterson'; Weaver, Crystal, EMNRD; 'Amber Groves'
Cc: Austin Weyant; james campanella
Subject: RE: Ford State #2 2RP-4390 backfill request

RE: Judah Oil * Ford St 2 * 2RP-4390 * DOR: 8/7/17

Heather,

Thank you for the extra effort. Your request to backfill is approved. We may want to consider a deferral on this one, but we can discuss that before you prepare the closure report.

Thank you,

Mike Bratcher
NMOCD District 2
811 South First Street
Artesia, NM 88210
575-748-1283 Ext 108

From: Heather Patterson [mailto:heather.patterson@soudermiller.com]
Sent: Tuesday, November 14, 2017 3:35 PM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Weaver, Crystal, EMNRD <Crystal.Weaver@state.nm.us>; 'Amber Groves' <agroves@slo.state.nm.us>
Cc: Austin Weyant <austin.weyant@soudermiller.com>; james campanella <judahoil@yahoo.com>
Subject: RE: Ford State #2 2RP-4390 backfill request

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Let me know if you need anything else.

Thank you,

Heather Patterson
Staff Scientist
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District I
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Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Operator: JUDAH OIL LLC PO Box 568 Artesia, NM 88211	OGRID: 245872
	Action Number: 9197
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
kcollins	Site to be cleaned up according to regulations upon plugging.	6/18/2021