MEWBOURNE OIL COMPANY 4801 Business Park Blvd | Hobbs NM 88240 | 575-393-5905

REMEDIATION SUMMARY &

DEFERRED SITE CLOSURE REQUEST

MEWBOURNE OIL COMPANY
RED HILLS WATER MANAGEMENT SYSTEM
Eddy County, New Mexico
Unit Letter "E" (SW/NW) and "L" (NW/SW), Section 36, Unit Letter "I" (NE/SE), Section 35, Township 25 South, Range 31 East
Latitude 32.085965 North, Longitude -103.740145 West
NMOCD Reference #2RP-5455

Prepared For:

New Mexico Oil Conservation Division
District 2
811 S. First Street
Artesia, New Mexico 88210

Prepared By:

Mewbourne Oil Company
4801 Business Park Blvd
Hobbs, New Mexico 88240

September, 2019

Robbie Runnels
Environmental Specialist

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

1.0 INTRODUCTION & BACKGROUND INFORMATION

Mewbourne Oil Company (Mewbourne), has prepared this *Remediation Summary & Deferred Site Closure Request* for the release site known as Red Hills Water Management System (2RP-5455). The legal description of the release site is Unit Letter "E" (SW/NW) and Unit Letter "L" (NW/SW) of Section 36, and Unit Letter "I" (NE/SE) of Section 35 in Township 25 South of Range 31 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.085965° North latitude and -103.740145° West longitude. The property affected by the release is owned by the New Mexico State Land Office (SLO). A "Site Location Map" is provided as Figure 1.

On May 6th, 2019, Mewbourne discovered a release of approximately fifty (50) barrels (bbls) of produced water when a fused connection failed. None of the released fluids were recovered. Approximately thirty-six thousand (36,000) square feet (ft^2) of pipeline right-of-way and twenty-thousand (20,000) square feet (ft^2) of the pasture was impacted. New Mexico Oil Conservation Division (NMOCD) was notified of the release on May 9th, 2019, and an initial C-141 was submitted to NMOCD on May 29th, 2019, for approval.

Initial sampling began on May 28th, 2019. Seven (7) sample points were established (L1, L2, L3, L4, L5, L6, L7) and soil samples were retrieved at the surface and to a depth of 2' bgs. The soil samples were field screened and clean samples were submitted to an NMOCD approved and certified laboratory for confirmation analyses. Chloride, gasoline range organics (GRO) and diesel range organics (DRO) were analyzed in addition to benzene, toluene, ethyl-benzene, and xlyenes (BTEX). Vertical delineation was completed for L1, L2, and L3.

In addition, horizontal delineation sample points were established (SW1, SW2, SW3, SW4, SW5, SW6, SW7, SW8, SW9, SW10) to ensure the total impacted area was encompassed. Composite soil samples were retrieved, field screened, and submitted to an NMOCD approved and certified laboratory for confirmation analyses. Laboratory analyses confirms that the site had been delineated horizontally.

On June 12th, 2019, a core sampler retrieved soil samples for L5 and L7 in order to complete vertical delineation for the site. Because of the proximity of pipelines, it was deemed to only use the sampler for L5 as exact locations of the pipelines were not located for sample point locations of L4 and L6.

Locations of the soil borings and soil sample collection areas are depicted in Figure 2, "Site & Sample Location Map". Laboratory analytical results are summarized in Table 1, "Concentrations of Benzene, BTEX, TPH & Chloride in Soil". Laboratory analytical reports are provided in Appendix C.

The Form C-141 is provided as Appendix D. General photographs of the release site and remediation activities are provided as Appendix A.

2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE) indicated that three (3) wells were in an adjacent section (S-1, 26-S, 31-E) to Section 36 of Township 25 South in Range 31 East. The average DGW for the 3 wells is three-hundred thirty-five (335) feet bgs. Utilizing the United States Geological Survey (USGS) website for groundwater, two wells were found to be in an adjacent section with an average depth to water of two-hundred eighty-eight (288) feet bgs A depth-to-groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately two-hundred eighty-five (285) and. Based on the NMOCD ranking system, zero (0) points were assigned to the site as a result of this criterion.

A search of the NMWRRS database indicated no records of any water wells within the section of the release or immediate surrounding area. Based on the NMOCD ranking system, zero (0) points were assigned to the site as a result of this criterion.

There are no surface water bodies within one thousand (1000) feet of the release. Based on the NMOCD ranking system, zero (0) points were assigned to the site as a result of this criterion.

NMOCD guidelines indicate the Red Hills Water Management System (2RP-5455) release site has an initial ranking score of zero (0) points. The soil remediation levels for a site with a ranking score of zero (0) are as follows:

- Benzene – 10 mg/kg
- Benzene, ethylbenzene, toluene, and xylenes (BTEX) – 50 mg/kg
- Total petroleum hydrocarbons (TPH) – 2,500 mg/kg
- Chloride – 20,000 mg/kg

As remediation is taking place in the pasture area, the soil remediation level for chloride concentration is 600 mg/kg for the first four (4) feet.

3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On July 10th, 2019, remediation activities began.

Excavated soil was stockpiled on site on a six (6) mil polypropylene plastic liner before being transferred to an approved NMOCD permitted facility for final disposal.

The floor of the excavation still exhibited contaminant concentrations above the NMOCD recommended remediation action levels for chlorides at four (4) feet bgs. The floor of the excavation was fitted with a twenty (20) mil, impermeable, polyethylene plastic liner. A cushion of sand was installed approximately six (6) inches both above and below the liner to protect it during installation and backfilling activities.

The plastic liner is an engineered control that serves to inhibit vertical migration of contaminants both upward to the vegetative zone and downward to the underlying groundwater, if any.

Composite wall soil samples were retrieved at intervals of approximately fifty (50) feet along the perimeter. Each composite wall sample did not represent greater than two-hundred (200) square feet of wall. Analytical results indicate that the vertical delineation was completed in that only the wall soil sample adjacent to the pipeline right-of-way was above the remediation concentration level for chlorides.

The remaining portion of the excavation was backfilled with locally purchased, non-impacted material. The clean topsoil was compacted, and contoured to fit the surrounding topography.

The disturbed area will be seeded with the land owner approved seed mix at such a time it is conducive for germination.

4.0 QA/QC PROCEDURES

4.1 Soil Sampling

Soil Samples were delivered to Xenco Laboratories, Inc., in Odessa, Texas, for analysis of BTEX, TPH, and/or chloride concentrations using the methods described below. Soil samples were analyzed for BTEX, TPH, and/or chloride concentrations within fourteen (14) days following the collection date.

The soil samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method SW 846-8021b (TCLP - SW-8260B
- TPH concentrations in accordance with modified EPA Method SW 846-8015M
- Chloride concentrations in accordance with EPA Method 300.1

4.2 Decontamination of Equipment

Cleaning of the sampling equipment was the responsibility of the environmental technician. Prior to use, and between each sample, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water.

4.3 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-of-custody form(s). These procedures were either transmitted with the laboratory analytical reports or are on file at the laboratory.

5.0 SITE CLOSURE REQUEST

Soil samples collected from the Red Hills Water Management System release site were analyzed by an NMOCD-approved laboratory, and concentrations of benzene, BTEX, and chloride were below the Table 1 levels established for the site. Soil exhibiting chloride concentrations above the Table 1 action level were removed above and isolated below a twenty (20) mil liner to protect the vegetative zone above the liner and to restrict the migration of chloride downward towards groundwater.

Mewbourne Oil Company is providing the NMOCD Artesia District Office a copy of this *Remediation Summary & Deferred Site Closure Request.* Mewbourne ask the NMOCD grant site closure to the Red Hills Water Management System release site and allow a deferral for the impacted area that is on the pipeline right-of-way until such time the pipeline is abandoned.

6.0 LIMITATIONS

Mewbourne Oil Company has prepared this *Remediation Summary & Deferred Site Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended. Mewbourne has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Mewbourne has not conducted an independent examination of the facts contained in referenced materials and statements. Mewbourne has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Mewbourne has prepared this report in a professional manner, using the degree of skill and care exercised by similar oil company environmental departments and or consultants. Mewbourne notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of the New Mexico Oil Conservation Division as well as Mewbourne Oil Company. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Mewbourne Oil Company.

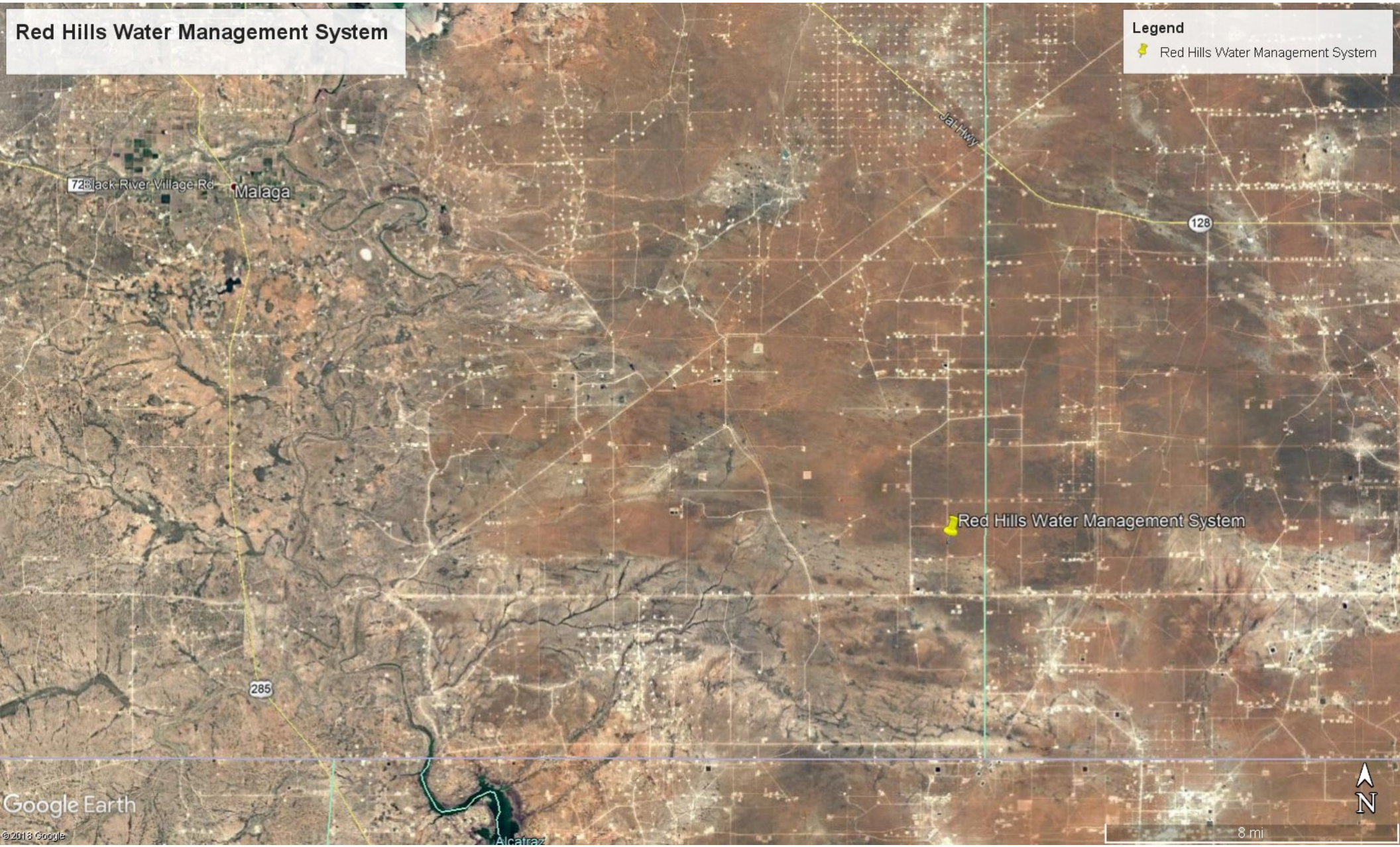
7.0 DISTRIBUTION:

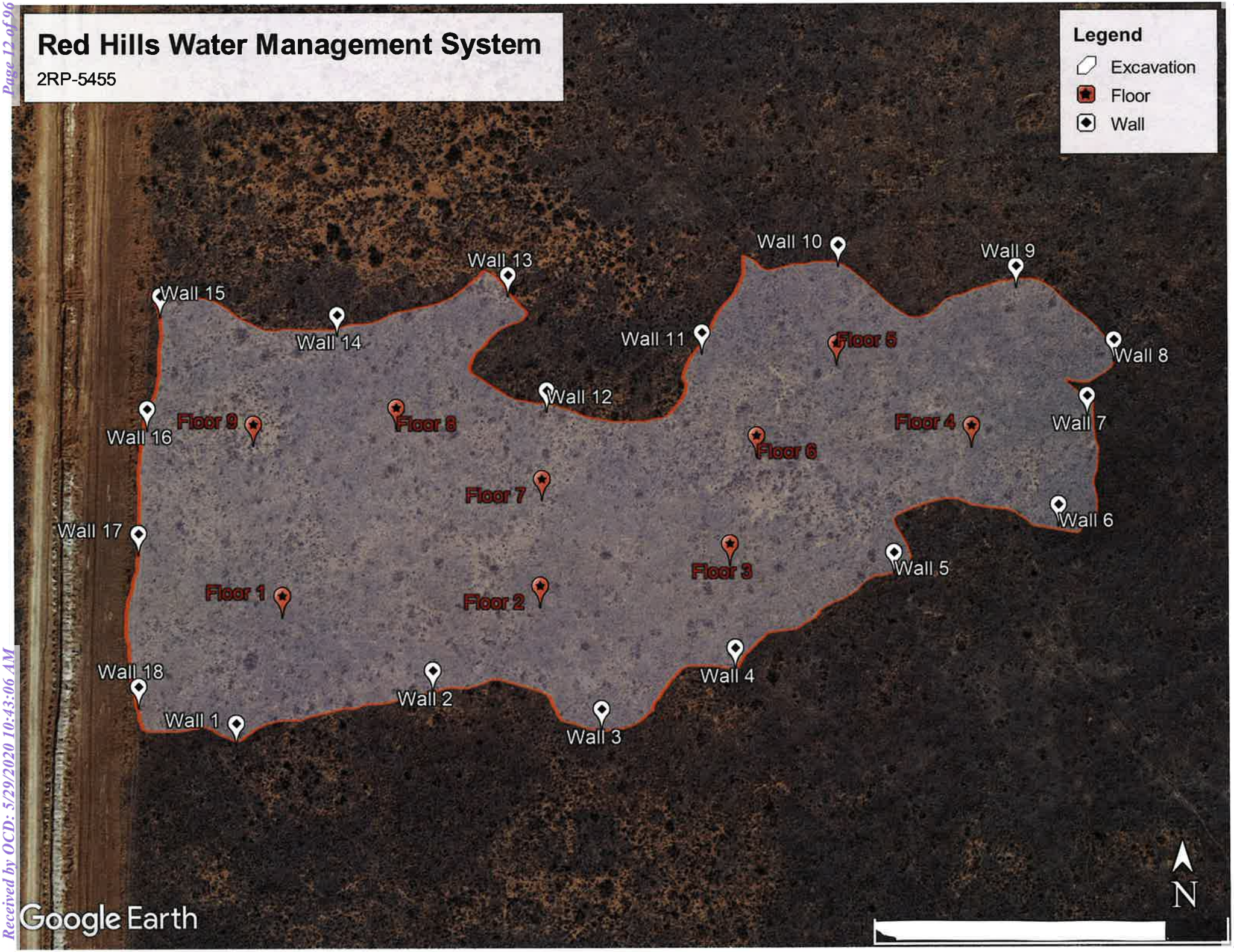
Copy 1: Victoria Venegas
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division (District 2)
1301 E. Grand Avenue
Artesia, NM 88210

Copy 2: Ryan Mann
New Mexico State Land Office
2827 N Dal Paso
Hobbs, NM 88240

Copy 3: Robin Terrell
Mewbourne Oil Company
4801 Business Park Blvd
Hobbs, NM 88240

FIGURES


Red Hills Water Management System
Legend
Red Hills Water Management System
Jal Hwy
128
72
Black River Village Rd
Malaga
Red Hills Water Management System
285
Alcatraz
Google Earth
©2018 Google
N
8 mi



National Water Information System: Web Interface

USGS Water Resources | Data Category: Groundwater | Geographic Area: New Mexico | GO

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Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 320425103415401

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

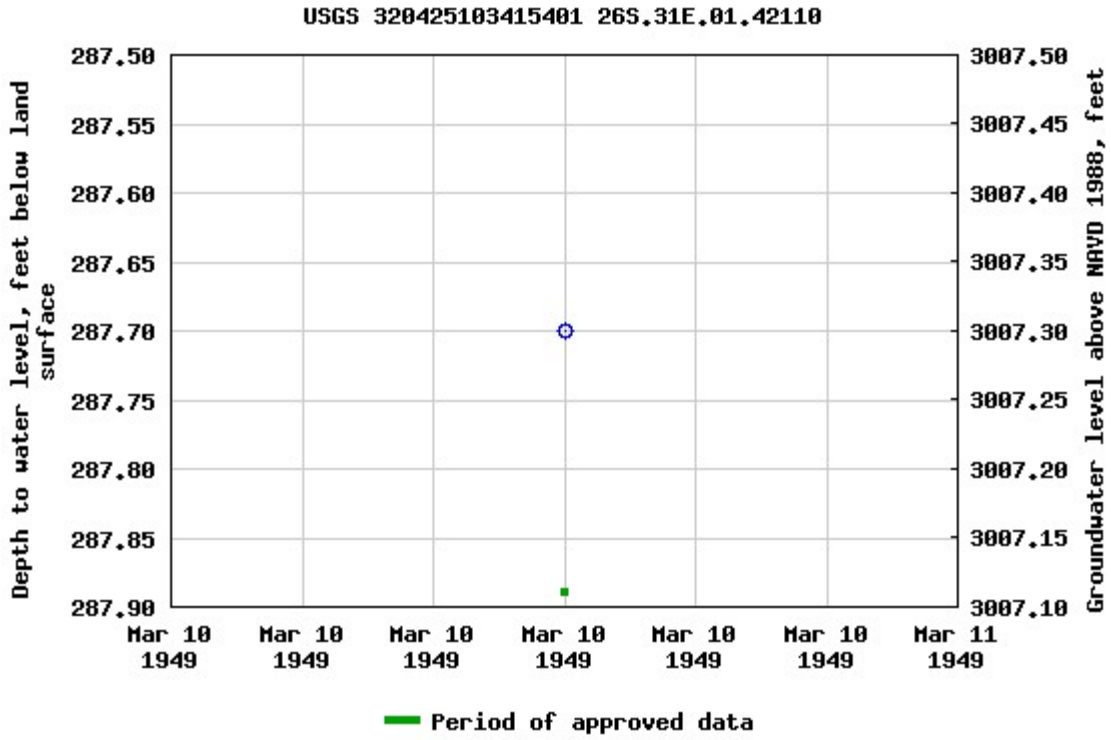
USGS 320425103415401 26S.31E.01.42110

Available data for this site Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code --
Latitude 32°04'25", Longitude 103°41'54" NAD27
Land-surface elevation 3,295 feet above NAVD88
The depth of the well is 340 feet below land surface.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

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URL: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

Page Contact Information: New Mexico Water Data Maintainer
Page Last Modified: 2019-07-31 10:53:31 EDT
1 0.94 nadww01

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Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 320424103415401

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

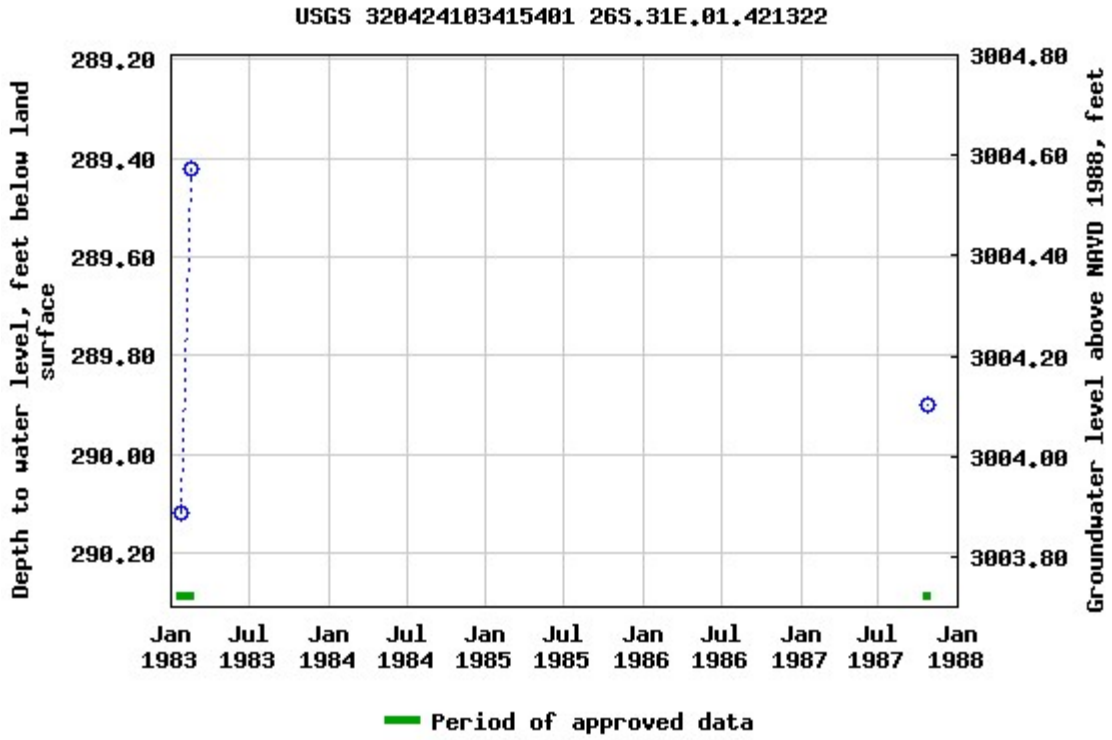
USGS 320424103415401 26S.31E.01.421322

Available data for this site Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code --
Latitude 32°04'24", Longitude 103°41'54" NAD27
Land-surface elevation 3,294 feet above NAVD88
This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
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Title: Groundwater for New Mexico: Water Levels
URL: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

Page Contact Information: New Mexico Water Data Maintainer
Page Last Modified: 2019-07-31 10:51:51 EDT
0.97 0.91 nadww01

New Mexico Office of the State Engineer

Wells with Well Log Information

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

(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	Code	POD Subbasin	County	Source	q 64	q 16	q 4	Sec	Tws	Rng	X	Y	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number
C 03554 POD1		CUB	ED	Shallow	2	1	4	01	26S	31E	620547	3549148	10/22/2012	10/26/2012	10/29/2012	630	300	SIRMAN, JOHN (LD)	1654
C 03639 POD1		CUB	ED	Shallow	3	4	2	01	26S	31E	620168	3549279	09/23/2013	09/25/2013	10/25/2013	700	365	JOHN SIRMAN	1654
C 04256 POD1		C	ED	Artesian	4	4	2	01	26S	31E	620384	3549257	06/28/2018	07/04/2018	07/18/2018	666	340	BRYCE WALLACE	1706

Record Count: 3

PLSS Search:

Section(s): 1 **Township:** 26S **Range:** 31E

Legend

- Sample Locations
- Point of Release

Owner

- Devon Energy
- Mewbourne
- Midstream
- Plains Pipeline
- Release Area

N

280 Feet

Site and Sample Location Map
Mewbourne-Red Hills Pipeline

Figure 3

P:\5-Mewbourne 2019 MSA (5E27962)\GIS\ARCGIS\MEWBOURNE_MIT.aprx

Date Saved: 5/29/2019

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

Drawn LRB
Date 5/30/2019
Checked
Approved

SMA
201 South Halagueña Street
Carlsbad, New Mexico 88221
(575) 689-7040
Serving the Southwest & Rocky Mountains

TABLES

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL
MEWBOURNE OIL COMPANY
RED HILLS WATER MANAGEMENT SYSTEM
EDDY COUNTY, NEW MEXICO
UL L, SEC 36, T-25-S, R-31-E
NMOCD REFERENCE #: 2RP-5455

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TOTAL TPH C_6-C_{36} (mg/Kg)	300	
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C_6-C_{10} (mg/Kg)	DRO C_{10}-C_{28} (mg/Kg)	EXT DRO C_{28}-C_{36} (mg/Kg)		CHLORIDE (mg/Kg)	FIELD CHLORIDE (mg/Kg)
L1 @ Surface	0'	5/28/2019	In-Situ	**<0.024**	<0.048	<0.048	<0.096	**<0.216**	<4.8	<9.6	<48	**<62.4**	**<60**	**NA**
L1 @ 2'	2'	5/28/2019	In-Situ	**<0.025**	<0.049	<0.049	<0.098	**<0.219**	<4.9	<9.7	<49	**<63.6**	**<60**	**NA**
L2 @ Surface	0'	5/28/2019	In-Situ	**<0.025**	<0.050	<0.050	<0.10	**<0.225**	<5.0	<9.2	<46	**<60.2**	**<60**	**NA**
L2 @ 2'	2'	5/28/2019	In-Situ	**<0.024**	<0.048	<0.048	<0.097	**<0.217**	<4.8	<9.8	<49	**<63.6**	**<60**	**NA**
L3 @ Surface	0'	5/28/2019	In-Situ	**<0.025**	<0.049	<0.049	<0.099	**<0.220**	<10	<10	<50	**<70**	**<60**	**NA**
L3 @ 2'	2'	5/28/2019	In-Situ	**<0.025**	<0.050	<0.050	<0.10	**<0.225**	<5.0	<10	<50	**<65**	**<60**	**NA**
SW1 Comp	0'	5/28/2019	In-Situ	**<0.024**	<0.048	<0.048	<0.096	**<0.216**	<4.8	<9.5	48	**<62.3**	**<60**	**NA**
SW2 Comp	0'	5/28/2019	In-Situ	**<0.025**	<0.049	<0.049	<0.099	**<0.222**	<4.9	<9.7	<48	**<62.6**	**<60**	**NA**
SW3 Comp	0'	5/28/2019	In-Situ	**<0.025**	<0.049	<0.049	<0.099	**<0.220**	<4.9	<9.8	<49	**<63.7**	**<60**	**NA**
SW4 Comp	0'	5/28/2019	In-Situ	**<0.024**	<0.049	<0.049	<0.098	**<0.218**	<4.9	<9.6	<48	**<62.5**	**<60**	**NA**
SW5 Comp	0'	5/28/2019	In-Situ	**<0.024**	<0.048	<0.048	<0.097	**<0.217**	<4.8	<9.7	<48	**<62.5**	**<60**	**NA**
SW6 Comp	0'	5/28/2019	In-Situ	**<0.024**	<0.049	<0.049	<0.098	**<0.218**	<4.9	<9.9	<49	**<63.8**	**<60**	**NA**
SW7 Comp	0'	5/28/2019	In-Situ	**<0.025**	<0.049	<0.049	<0.099	**<0.222**	<4.9	<9.5	<47	**<61.2**	**<60**	**NA**
L5 @ 4'	4'	6/12/2019	In-Situ	**<0.025**	<0.050	<0.050	<0.10	**<0.225**	<5.0	<10	<50	**<65**	8,000	**NA**
L5 @ 10'	10'	6/12/2019	In-Situ	**<0.025**	<0.049	<0.049	<0.099	**<0.220**	<4.9	<9.4	<47	**<61.1**	**200**	**NA**
L7 @ 3'	3'	6/12/2019	In-Situ	**<0.025**	<0.050	<0.050	<0.099	**<0.224**	<5.0	<9.7	49	**<63.7**	3,400	**NA**
L7 @ 12.5'	12.5'	6/12/2019	In-Situ	**<0.025**	<0.049	<0.049	<0.099	**<0.220**	<4.9	<9.5	<47	**<61.2**	6,300	**NA**
L7 @ 22.5'	22.5'	6/12/2019	In-Situ	**<0.025**	<0.049	<0.049	<0.099	**<0.220**	<4.9	<9.3	<47	**<61.0**	**380**	**NA**
SW8 Comp	0'	6/12/2019	In-Situ	**<0.025**	<0.050	<0.050	<0.099	**<0.224**	<5.0	<9.7	<48	**<62.7**	**<60**	**NA**
SW9 Comp	0'	6/12/2019	In-Situ	**<0.025**	<0.050	<0.050	<0.10	**<0.225**	<5.0	<9.9	<50	**<64.9**	**<60**	**NA**
SW10 Comp	0'	6/12/2019	In-Situ	**<0.025**	<0.050	<0.050	<0.10	**<0.225**	<5.0	<9.7	49	**<63.7**	**<60**	**NA**
L4 @ 4'	4'	7/1/2019	In-Situ	**<0.025**	<0.049	<0.049	<0.099	**<0.222**	<4.9	250	110	**360**	3,200	**NA**
L6 @ 4'	4'	7/1/2019	In-Situ	**<0.025**	<0.050	<0.050	<0.099	**<0.224**	<5.0	<9.6	<48	**<62.6**	2,400	**NA**
Wall 1	Various	7/26/2019	Composite	**<0.025**	<0.049	<0.049	<0.099	**<0.222**	<4.9	<10	<51	**<65.9**	**<7.5**	**<128**
Wall 2	Various	7/26/2019	Composite	**<0.025**	<0.050	<0.050	<0.10	**<0.225**	<5.0	<9.8	<49	**<63.8**	**15**	**<128**
Wall 3	Various	7/26/2019	Composite	**<0.025**	<0.050	<0.050	<0.099	**<0.224**	<5.0	<9.7	<49	**<63.7**	**34**	**<128**
Wall 4	Various	7/26/2019	Composite	**<0.025**	<0.050	<0.050	<0.099	**<0.224**	<5.0	<9.6	<48	**<62.6**	**390**	**352**
Wall 5	Various	7/26/2019	Composite	**<0.025**	<0.049	<0.049	<0.098	**<0.221**	<4.9	<10	<50	**<64.9**	**620**	**480**
Wall 6	Various	7/26/2019	Composite	**<0.025**	<0.050	<0.050	<0.10	**<0.225**	<5.0	<9.7	<48	**<62.7**	**220**	**<128**
Wall 7	Various	7/26/2019	Composite	**<0.025**	<0.049	<0.049	<0.099	**<0.222**	<4.9	<9.9	<49	**<63.8**	**67**	**<128**
Wall 8	Various	7/26/2019	Composite	**<0.025**	<0.050	<0.050	<0.10	**<0.225**	<5.0	<10	<52	**<67.0**	**<7.5**	**<128**
Wall 9	Various	7/26/2019	Composite	**<0.025**	<0.050	<0.050	<0.099	**<0.224**	<5.0	<9.8	<49	**<63.8**	**<7.5**	**<128**
Wall 10	Various	7/26/2019	Composite	**<0.025**	<0.049	<0.049	<0.098	**<0.221**	<4.9	<9.5	<48	**<62.4**	**210**	**212**
Wall 11	Various	7/26/2019	Composite	**<0.025**	<0.049	<0.049	<0.098	**<0.221**	<4.9	<9.0	<45	**<58.9**	**<7.5**	**<128**
Wall 12	Various	7/26/2019	Composite	**<0.025**	<0.050	<0.050	<0.10	**<0.225**	<5.0	<9.9	<49	**<63.9**	**340**	**316**
Wall 13	Various	7/26/2019	Composite	**<0.025**	<0.049	<0.049	<0.099	**<0.222**	<4.9	<9.7	<48	**<62.6**	**96**	**<128**
Wall 14	Various	7/26/2019	Composite	**<0.025**	<0.050	<0.050	<0.099	**<0.224**	<5.0	<10	<51	**<66.0**	**<7.5**	**<128**
Wall 15	Various	7/26/2019	Composite	**<0.025**	<0.049	<0.049	<0.098	**<0.221**	<4.9	<10	<50	**<64.9**	890	**180**
Wall 16	Various	7/26/2019	Composite	**<0.025**	<0.050	<0.050	<0.10	**<0.225**	<5.0	<9.3	<47	**<61.3**	**24**	**<128**
Wall 17	Various	7/26/2019	Composite	**<0.025**	<0.049	<0.049	<0.099	**<0.222**	<4.9	<9.6	<48	**<62.5**	1,300	1,464
Wall 18	Various	7/26/2019	Composite	**<0.025**	<0.050	<0.050	<0.10	**<0.225**	<5.0	<9.3	<47	**<61.3**	2,300	1,364
Floor 1	4'	7/26/2019	In-Situ	**<0.025**	<0.050	<0.050	<0.10	**<0.225**	<5.0	<9.2	<46	**<60.2**	3,600	NA
Floor 2	4'	7/26/2019	In-Situ	**<0.024**	<0.049	<0.049	<0.098	**<0.218**	<4.9	<9.8	<49	**<63.7**	11,000	NA
Floor 3	4'	7/26/2019	In-Situ	**<0.025**	<0.050	<0.050	<0.098	**<0.223**	<4.9	<9.6	<48	**<62.5**	4,400	NA

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL
MEWBOURNE OIL COMPANY
RED HILLS WATER MANAGEMENT SYSTEM
EDDY COUNTY, NEW MEXICO
UL L, SEC 36, T-25-S, R-31-E
NMOCD REFERENCE #: 2RP-5455

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TOTAL TPH C_6-C_{36} (mg/Kg)	300	
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C_6-C_{10} (mg/Kg)	DRO C_{10}-C_{28} (mg/Kg)	EXT DRO C_{28}-C_{36} (mg/Kg)		CHLORIDE (mg/Kg)	FIELD CHLORIDE (mg/Kg)
Floor 4	4'	7/26/2019	In-Situ	**<0.025**	<0.050	<0.050	<0.099	**<0.224**	<5.0	<8.9	<45	**<58.9**	12,000	NA
Floor 5	4'	7/26/2019	In-Situ	**<0.025**	<0.050	<0.050	<0.10	**<0.225**	<5.0	<8.7	<44	**<57.7**	22,000	NA
Floor 6	4'	7/26/2019	In-Situ	**<0.025**	<0.050	<0.050	<0.099	**<0.224**	<5.0	<9.5	<48	**<62.5**	**150**	NA
Floor 7	4'	7/26/2019	In-Situ	**<0.025**	<0.049	<0.049	<0.099	**<0.222**	<4.9	<9.7	<48	**<62.6**	12,000	NA
Floor 8	4'	7/26/2019	In-Situ	**<0.025**	<0.050	<0.050	<0.099	**<0.224**	<5.0	<8.8	<44	**<57.8**	20,000	NA
Floor 9	4'	7/26/2019	In-Situ	**<0.025**	<0.049	<0.049	<0.099	**<0.222**	<4.9	<9.3	<46	**<60.2**	**390**	NA
NMOCD Regulatory Standard				**10**				**50**				**2,500**	**600**	

APPENDICES

Red Hills Water Management System – 2RP-5455

32.085965, -103.740145

Release area, facing north 6/21/19

Release area, facing east 6/21/19

Remediation, facing east 7/15/19

Remediation, facing southeast 7/25/19

Red Hills Water Management System – 2RP-5455

32.085965, -103.740145

Liner placed, facing east 8/5/19

Backfilled, facing southwest 8/12/19

Remediation, facing west 7/25/19

Remediation, facing straight down 7/25/19

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

June 11, 2019

Jacqui Haris
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL:
FAX

RE: Red Hills PL OrderNo.: 1906106

Dear Jacqui Haris:

Hall Environmental Analysis Laboratory received 13 sample(s) on 6/4/2019 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1906106**
Date Reported: **6/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-Surf
Project: Red Hills PL
Collection Date: 5/28/2019 10:05:00 AM
Lab ID: 1906106-001 **Matrix:** SOIL **Received Date:** 6/4/2019 11:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	60		mg/Kg	20	6/7/2019 3:06:48 AM	45427
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/7/2019 1:45:41 PM	45417
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/7/2019 1:45:41 PM	45417
Surr: DNOP	92.8	70-130		%Rec	1	6/7/2019 1:45:41 PM	45417
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/5/2019 8:29:53 PM	45365
Surr: BFB	95.6	73.8-119		%Rec	1	6/5/2019 8:29:53 PM	45365
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	6/5/2019 8:29:53 PM	45365
Toluene	ND	0.048		mg/Kg	1	6/5/2019 8:29:53 PM	45365
Ethylbenzene	ND	0.048		mg/Kg	1	6/5/2019 8:29:53 PM	45365
Xylenes, Total	ND	0.096		mg/Kg	1	6/5/2019 8:29:53 PM	45365
Surr: 4-Bromofluorobenzene	99.7	80-120		%Rec	1	6/5/2019 8:29:53 PM	45365

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906106**
Date Reported: **6/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L1-2'
Project: Red Hills PL
Collection Date: 5/28/2019 10:10:00 AM
Lab ID: 1906106-002 **Matrix:** SOIL **Received Date:** 6/4/2019 11:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	60		mg/Kg	20	6/7/2019 3:19:12 AM	45427
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/7/2019 2:07:54 PM	45417
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/7/2019 2:07:54 PM	45417
Surr: DNOP	103	70-130		%Rec	1	6/7/2019 2:07:54 PM	45417
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/5/2019 8:52:32 PM	45365
Surr: BFB	92.6	73.8-119		%Rec	1	6/5/2019 8:52:32 PM	45365
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	6/5/2019 8:52:32 PM	45365
Toluene	ND	0.049		mg/Kg	1	6/5/2019 8:52:32 PM	45365
Ethylbenzene	ND	0.049		mg/Kg	1	6/5/2019 8:52:32 PM	45365
Xylenes, Total	ND	0.098		mg/Kg	1	6/5/2019 8:52:32 PM	45365
Surr: 4-Bromofluorobenzene	93.0	80-120		%Rec	1	6/5/2019 8:52:32 PM	45365

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906106**
Date Reported: **6/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-Surf
Project: Red Hills PL
Collection Date: 5/28/2019 10:15:00 AM
Lab ID: 1906106-003 **Matrix:** SOIL **Received Date:** 6/4/2019 11:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	ND	60		mg/Kg	20	6/7/2019 3:31:37 AM	45427
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	6/7/2019 2:29:54 PM	45417
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/7/2019 2:29:54 PM	45417
Surr: DNOP	102	70-130		%Rec	1	6/7/2019 2:29:54 PM	45417
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/5/2019 9:15:14 PM	45365
Surr: BFB	92.9	73.8-119		%Rec	1	6/5/2019 9:15:14 PM	45365
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	6/5/2019 9:15:14 PM	45365
Toluene	ND	0.050		mg/Kg	1	6/5/2019 9:15:14 PM	45365
Ethylbenzene	ND	0.050		mg/Kg	1	6/5/2019 9:15:14 PM	45365
Xylenes, Total	ND	0.10		mg/Kg	1	6/5/2019 9:15:14 PM	45365
Surr: 4-Bromofluorobenzene	94.8	80-120		%Rec	1	6/5/2019 9:15:14 PM	45365

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906106**
Date Reported: **6/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L2-2'
Project: Red Hills PL
Collection Date: 5/28/2019 10:20:00 AM
Lab ID: 1906106-004 **Matrix:** SOIL **Received Date:** 6/4/2019 11:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	ND	60		mg/Kg	20	6/7/2019 3:44:02 AM	45427
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/7/2019 2:51:59 PM	45417
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/7/2019 2:51:59 PM	45417
Surr: DNOP	144	70-130	S	%Rec	1	6/7/2019 2:51:59 PM	45417
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/5/2019 9:37:59 PM	45365
Surr: BFB	93.0	73.8-119		%Rec	1	6/5/2019 9:37:59 PM	45365
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	6/5/2019 9:37:59 PM	45365
Toluene	ND	0.048		mg/Kg	1	6/5/2019 9:37:59 PM	45365
Ethylbenzene	ND	0.048		mg/Kg	1	6/5/2019 9:37:59 PM	45365
Xylenes, Total	ND	0.097		mg/Kg	1	6/5/2019 9:37:59 PM	45365
Surr: 4-Bromofluorobenzene	95.7	80-120		%Rec	1	6/5/2019 9:37:59 PM	45365

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906106**
Date Reported: **6/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-Surf
Project: Red Hills PL
Collection Date: 5/28/2019 10:30:00 AM
Lab ID: 1906106-005 **Matrix:** SOIL **Received Date:** 6/4/2019 11:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	60		mg/Kg	20	6/7/2019 3:56:27 AM	45427
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/7/2019 3:14:00 PM	45417
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/7/2019 3:14:00 PM	45417
Surr: DNOP	109	70-130		%Rec	1	6/7/2019 3:14:00 PM	45417
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/5/2019 10:46:38 PM	45365
Surr: BFB	97.4	73.8-119		%Rec	1	6/5/2019 10:46:38 PM	45365
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	6/5/2019 10:46:38 PM	45365
Toluene	ND	0.049		mg/Kg	1	6/5/2019 10:46:38 PM	45365
Ethylbenzene	ND	0.049		mg/Kg	1	6/5/2019 10:46:38 PM	45365
Xylenes, Total	ND	0.099		mg/Kg	1	6/5/2019 10:46:38 PM	45365
Surr: 4-Bromofluorobenzene	98.7	80-120		%Rec	1	6/5/2019 10:46:38 PM	45365

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906106**
Date Reported: **6/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L3-2'
Project: Red Hills PL
Collection Date: 5/28/2019 10:35:00 AM
Lab ID: 1906106-006 **Matrix:** SOIL **Received Date:** 6/4/2019 11:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	60		mg/Kg	20	6/7/2019 4:08:51 AM	45427
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/7/2019 4:20:19 PM	45417
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/7/2019 4:20:19 PM	45417
Surr: DNOP	103	70-130		%Rec	1	6/7/2019 4:20:19 PM	45417
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/5/2019 11:09:36 PM	45365
Surr: BFB	95.2	73.8-119		%Rec	1	6/5/2019 11:09:36 PM	45365
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	6/5/2019 11:09:36 PM	45365
Toluene	ND	0.050		mg/Kg	1	6/5/2019 11:09:36 PM	45365
Ethylbenzene	ND	0.050		mg/Kg	1	6/5/2019 11:09:36 PM	45365
Xylenes, Total	ND	0.10		mg/Kg	1	6/5/2019 11:09:36 PM	45365
Surr: 4-Bromofluorobenzene	96.4	80-120		%Rec	1	6/5/2019 11:09:36 PM	45365

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906106**
Date Reported: **6/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW1 Comp
Project: Red Hills PL
Collection Date: 5/28/2019 10:45:00 AM
Lab ID: 1906106-007 **Matrix:** SOIL **Received Date:** 6/4/2019 11:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	60		mg/Kg	20	6/7/2019 4:46:05 AM	45427
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/7/2019 4:42:17 PM	45417
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/7/2019 4:42:17 PM	45417
Surr: DNOP	101	70-130		%Rec	1	6/7/2019 4:42:17 PM	45417
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/5/2019 11:32:34 PM	45365
Surr: BFB	93.9	73.8-119		%Rec	1	6/5/2019 11:32:34 PM	45365
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	6/5/2019 11:32:34 PM	45365
Toluene	ND	0.048		mg/Kg	1	6/5/2019 11:32:34 PM	45365
Ethylbenzene	ND	0.048		mg/Kg	1	6/5/2019 11:32:34 PM	45365
Xylenes, Total	ND	0.096		mg/Kg	1	6/5/2019 11:32:34 PM	45365
Surr: 4-Bromofluorobenzene	95.7	80-120		%Rec	1	6/5/2019 11:32:34 PM	45365

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906106**
Date Reported: **6/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW2 Comp
Project: Red Hills PL
Collection Date: 5/28/2019 10:55:00 AM
Lab ID: 1906106-008 **Matrix:** SOIL **Received Date:** 6/4/2019 11:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	60		mg/Kg	20	6/7/2019 3:26:38 PM	45437
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/7/2019 5:04:29 PM	45417
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/7/2019 5:04:29 PM	45417
Surr: DNOP	135	70-130	S	%Rec	1	6/7/2019 5:04:29 PM	45417
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/5/2019 11:55:30 PM	45365
Surr: BFB	94.0	73.8-119		%Rec	1	6/5/2019 11:55:30 PM	45365
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	6/5/2019 11:55:30 PM	45365
Toluene	ND	0.049		mg/Kg	1	6/5/2019 11:55:30 PM	45365
Ethylbenzene	ND	0.049		mg/Kg	1	6/5/2019 11:55:30 PM	45365
Xylenes, Total	ND	0.099		mg/Kg	1	6/5/2019 11:55:30 PM	45365
Surr: 4-Bromofluorobenzene	94.5	80-120		%Rec	1	6/5/2019 11:55:30 PM	45365

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906106**
Date Reported: **6/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW3 Comp
Project: Red Hills PL
Collection Date: 5/28/2019 11:05:00 AM
Lab ID: 1906106-009 **Matrix:** SOIL **Received Date:** 6/4/2019 11:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	60		mg/Kg	20	6/7/2019 4:03:51 PM	45437
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/7/2019 5:26:43 PM	45417
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/7/2019 5:26:43 PM	45417
Surr: DNOP	98.0	70-130		%Rec	1	6/7/2019 5:26:43 PM	45417
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/6/2019 12:18:30 AM	45365
Surr: BFB	92.8	73.8-119		%Rec	1	6/6/2019 12:18:30 AM	45365
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	6/6/2019 12:18:30 AM	45365
Toluene	ND	0.049		mg/Kg	1	6/6/2019 12:18:30 AM	45365
Ethylbenzene	ND	0.049		mg/Kg	1	6/6/2019 12:18:30 AM	45365
Xylenes, Total	ND	0.099		mg/Kg	1	6/6/2019 12:18:30 AM	45365
Surr: 4-Bromofluorobenzene	94.0	80-120		%Rec	1	6/6/2019 12:18:30 AM	45365

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906106**
Date Reported: **6/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW4 Comp
Project: Red Hills PL
Collection Date: 5/28/2019 11:10:00 AM
Lab ID: 1906106-010 **Matrix:** SOIL
Received Date: 6/4/2019 11:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	59		mg/Kg	20	6/7/2019 4:16:15 PM	45437
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/7/2019 5:49:15 PM	45417
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/7/2019 5:49:15 PM	45417
Surr: DNOP	105	70-130		%Rec	1	6/7/2019 5:49:15 PM	45417
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/6/2019 12:41:29 AM	45365
Surr: BFB	93.1	73.8-119		%Rec	1	6/6/2019 12:41:29 AM	45365
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	6/6/2019 12:41:29 AM	45365
Toluene	ND	0.049		mg/Kg	1	6/6/2019 12:41:29 AM	45365
Ethylbenzene	ND	0.049		mg/Kg	1	6/6/2019 12:41:29 AM	45365
Xylenes, Total	ND	0.098		mg/Kg	1	6/6/2019 12:41:29 AM	45365
Surr: 4-Bromofluorobenzene	93.2	80-120		%Rec	1	6/6/2019 12:41:29 AM	45365

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906106**
Date Reported: **6/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW5 Comp
Project: Red Hills PL
Collection Date: 5/28/2019 11:15:00 AM
Lab ID: 1906106-011 **Matrix:** SOIL **Received Date:** 6/4/2019 11:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	ND	60		mg/Kg	20	6/7/2019 4:28:39 PM	45437
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/7/2019 6:11:34 PM	45417
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/7/2019 6:11:34 PM	45417
Surr: DNOP	119	70-130		%Rec	1	6/7/2019 6:11:34 PM	45417
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/6/2019 1:04:29 AM	45365
Surr: BFB	92.2	73.8-119		%Rec	1	6/6/2019 1:04:29 AM	45365
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	6/6/2019 1:04:29 AM	45365
Toluene	ND	0.048		mg/Kg	1	6/6/2019 1:04:29 AM	45365
Ethylbenzene	ND	0.048		mg/Kg	1	6/6/2019 1:04:29 AM	45365
Xylenes, Total	ND	0.097		mg/Kg	1	6/6/2019 1:04:29 AM	45365
Surr: 4-Bromofluorobenzene	94.5	80-120		%Rec	1	6/6/2019 1:04:29 AM	45365

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906106**
Date Reported: **6/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW6 Comp
Project: Red Hills PL
Collection Date: 5/28/2019 11:20:00 AM
Lab ID: 1906106-012 **Matrix:** SOIL **Received Date:** 6/4/2019 11:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	ND	60		mg/Kg	20	6/7/2019 4:41:04 PM	45437
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/7/2019 6:33:56 PM	45417
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/7/2019 6:33:56 PM	45417
Surr: DNOP	105	70-130		%Rec	1	6/7/2019 6:33:56 PM	45417
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/6/2019 1:27:26 AM	45365
Surr: BFB	92.9	73.8-119		%Rec	1	6/6/2019 1:27:26 AM	45365
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	6/6/2019 1:27:26 AM	45365
Toluene	ND	0.049		mg/Kg	1	6/6/2019 1:27:26 AM	45365
Ethylbenzene	ND	0.049		mg/Kg	1	6/6/2019 1:27:26 AM	45365
Xylenes, Total	ND	0.098		mg/Kg	1	6/6/2019 1:27:26 AM	45365
Surr: 4-Bromofluorobenzene	94.3	80-120		%Rec	1	6/6/2019 1:27:26 AM	45365

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906106**
Date Reported: **6/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW7 Comp
Project: Red Hills PL
Collection Date: 5/28/2019 11:25:00 AM
Lab ID: 1906106-013 **Matrix:** SOIL **Received Date:** 6/4/2019 11:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Chloride	ND	60		mg/Kg	20	6/7/2019 4:53:28 PM	45437
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/7/2019 6:56:10 PM	45417
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/7/2019 6:56:10 PM	45417
Surr: DNOP	98.4	70-130		%Rec	1	6/7/2019 6:56:10 PM	45417
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/6/2019 1:50:28 AM	45365
Surr: BFB	92.9	73.8-119		%Rec	1	6/6/2019 1:50:28 AM	45365
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	6/6/2019 1:50:28 AM	45365
Toluene	ND	0.049		mg/Kg	1	6/6/2019 1:50:28 AM	45365
Ethylbenzene	ND	0.049		mg/Kg	1	6/6/2019 1:50:28 AM	45365
Xylenes, Total	ND	0.099		mg/Kg	1	6/6/2019 1:50:28 AM	45365
Surr: 4-Bromofluorobenzene	93.6	80-120		%Rec	1	6/6/2019 1:50:28 AM	45365

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 Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1906106**

11-Jun-19

Client: Souder, Miller & Associates

Project: Red Hills PL

Sample ID: **MB-45427** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **45427** RunNo: **60469**

Prep Date: **6/6/2019** Analysis Date: **6/6/2019** SeqNo: **2045558** Units: **mg/Kg**

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

Sample ID: **LCS-45427** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **45427** RunNo: **60469**

Prep Date: **6/6/2019** Analysis Date: **6/6/2019** SeqNo: **2045559** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.1	90	110			

Sample ID: **MB-45437** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **45437** RunNo: **60474**

Prep Date: **6/7/2019** Analysis Date: **6/7/2019** SeqNo: **2047364** Units: **mg/Kg**

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

Sample ID: **LCS-45437** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **45437** RunNo: **60474**

Prep Date: **6/7/2019** Analysis Date: **6/7/2019** SeqNo: **2047365** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.3	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1906106**

11-Jun-19

Client: Souder, Miller & Associates

Project: Red Hills PL

Sample ID: **MB-45417**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **45417**	RunNo: **60466**
Prep Date: **6/6/2019**	Analysis Date: **6/7/2019**	SeqNo: **2046058** 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	10		10.00		104	70	130			

Sample ID: **LCS-45417**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **45417**	RunNo: **60466**
Prep Date: **6/6/2019**	Analysis Date: **6/7/2019**	SeqNo: **2046059** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.2	63.9	124			
Surr: DNOP	4.7		5.000		93.1	70	130			

Sample ID: **MB-45459**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **45459**	RunNo: **60523**
Prep Date: **6/10/2019**	Analysis Date: **6/10/2019**	SeqNo: **2047589** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.6		10.00		96.0	70	130			

Sample ID: **LCS-45459**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **45459**	RunNo: **60523**
Prep Date: **6/10/2019**	Analysis Date: **6/10/2019**	SeqNo: **2047590** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.8		5.000		96.1	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906106**
11-Jun-19

Client: Souder, Miller & Associates
Project: Red Hills PL

Sample ID: **MB-45365**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **45365**	RunNo: **60414**
Prep Date: **6/4/2019**	Analysis Date: **6/5/2019**	SeqNo: **2043621** 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	940		1000		93.7	73.8	119			

Sample ID: **LCS-45365**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **45365**	RunNo: **60414**
Prep Date: **6/4/2019**	Analysis Date: **6/5/2019**	SeqNo: **2043623** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.6	80.1	123			
Surr: BFB	1000		1000		105	73.8	119			

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 Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906106**
11-Jun-19

Client: Souder, Miller & Associates
Project: Red Hills PL

Sample ID: **MB-45365** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **45365** RunNo: **60414**
Prep Date: **6/4/2019** Analysis Date: **6/5/2019** SeqNo: **2043665** 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	0.99		1.000		98.7	80	120			

Sample ID: **LCS-45365** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **45365** RunNo: **60414**
Prep Date: **6/4/2019** Analysis Date: **6/5/2019** SeqNo: **2043666** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	99.7	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.2	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Qualifiers:

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

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: **1906106** RcptNo: **1**

Received By: **Jevon Campisi** **6/4/2019 11:15:00 AM** Jevon Campisi

Completed By: **Isaiah Ortiz** **6/4/2019 1:37:26 PM** I-Ox

Reviewed By: DAD 6/4/19

Chain of Custody

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

Log In

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

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

Adjusted?

Checked by:

Thm 6-4-19

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.2	Good	Yes			

Chain-of-Custody Record

Client: SMA Carlsbad

Mailing Address: ☆ Direct Bill Mewbourne ☆

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

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

Project Name: Red Hills PL

Project #:

Project Manager: Jacqui Harris

Sampler: LRB

On Ice: ☐ Yes ☐ No

# of Coolers: 1

Cooler Temp (including CF): 1.9°C +0.3CF = 2.2°C

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 Name	Container Type and #	Preservative Type	HEAL No. 1906106	(BTEX) / MTBE / TMB's (8021)	TPH (8015D) (GRO) (DRO) (MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
5/30/19	10:05	Soil	L1 - Surf	4 oz		-001	X	X					X			
	10:10		L1 - 2'			-002										
	10:15		L2 - Surf			-003										
	10:20		L2 - 2'			-004										
	10:30		L3 - Surf			-005										
	10:35		L3 - 2'			-006										
	10:45		SW1 Comp			-007										
	10:55		SW2 Comp			-008										
	11:05		SW3 Comp			-009										
	11:10		SW4 Comp			-010										
	11:15		SW5 Comp			-011										
	11:20		SW6 Comp			-012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
5/30/19	9:39	Lyndsey Bradley			6/3/19	0830
6/3/19	1902			Courier	6-4-19	11:15

Remarks: ☆ Direct Bill Mewbourne ☆

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.

Chain-of-Custody Record

Client: SMA Carlsbad

Mailing Address: ☆ Direct Bill Newbourne ☆

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

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

Project Name: Red Hills PL

Project #:

Project Manager: Jacqui Harris

Sampler: LRB

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp (including CF): 1.9°C + 0.3CF = 2.2°C

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 Name	Container Type and #	Preservative Type	HEAL No.	(BTEX) MTBE / TMB's (8021)	(TPH) 8015D (GRO) (DRO) (MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	(Cl), F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)					
5/24/19	11:25	Soil	SW7 Comp	4oz		1906106-013	X	X					X								

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
5/30/19	9:39	Lyndsey Bradshaw				
6/3/19	1900			Courier	6-4-19	11:15

Remarks: ☆ Direct Bill Newbourne ☆

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.

Analytical Report
Lab Order **1906780**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L5-4
Project: Red Hills PL
Collection Date: 6/12/2019 9:05:00 AM
Lab ID: 1906780-001 **Matrix:** SOIL **Received Date:** 6/14/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	8000	300		mg/Kg	100	6/21/2019	45691
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/18/2019 2:08:17 PM	45634
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/18/2019 2:08:17 PM	45634
Surr: DNOP	126	70-130		%Rec	1	6/18/2019 2:08:17 PM	45634
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/17/2019 2:21:41 PM	45608
Surr: BFB	93.4	73.8-119		%Rec	1	6/17/2019 2:21:41 PM	45608
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	6/17/2019 2:21:41 PM	45608
Toluene	ND	0.050		mg/Kg	1	6/17/2019 2:21:41 PM	45608
Ethylbenzene	ND	0.050		mg/Kg	1	6/17/2019 2:21:41 PM	45608
Xylenes, Total	ND	0.10		mg/Kg	1	6/17/2019 2:21:41 PM	45608
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	6/17/2019 2:21:41 PM	45608

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906780**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L5-10
Project: Red Hills PL
Collection Date: 6/12/2019 9:35:00 AM
Lab ID: 1906780-002 **Matrix:** SOIL **Received Date:** 6/14/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	200	60		mg/Kg	20	6/20/2019 10:45:39 AM	45691
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	6/18/2019 4:34:13 PM	45634
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/18/2019 4:34:13 PM	45634
Surr: DNOP	158	70-130	S	%Rec	1	6/18/2019 4:34:13 PM	45634
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/17/2019 6:39:30 PM	45608
Surr: BFB	94.4	73.8-119		%Rec	1	6/17/2019 6:39:30 PM	45608
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	6/17/2019 6:39:30 PM	45608
Toluene	ND	0.049		mg/Kg	1	6/17/2019 6:39:30 PM	45608
Ethylbenzene	ND	0.049		mg/Kg	1	6/17/2019 6:39:30 PM	45608
Xylenes, Total	ND	0.099		mg/Kg	1	6/17/2019 6:39:30 PM	45608
Surr: 4-Bromofluorobenzene	99.2	80-120		%Rec	1	6/17/2019 6:39:30 PM	45608

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906780**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L7-3
Project: Red Hills PL
Collection Date: 6/12/2019 10:00:00 AM
Lab ID: 1906780-003 **Matrix:** SOIL **Received Date:** 6/14/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	3400	150		mg/Kg	50	6/21/2019	45691
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/18/2019 4:58:35 PM	45634
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/18/2019 4:58:35 PM	45634
Surr: DNOP	119	70-130		%Rec	1	6/18/2019 4:58:35 PM	45634
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/17/2019 7:02:59 PM	45608
Surr: BFB	90.0	73.8-119		%Rec	1	6/17/2019 7:02:59 PM	45608
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	6/17/2019 7:02:59 PM	45608
Toluene	ND	0.050		mg/Kg	1	6/17/2019 7:02:59 PM	45608
Ethylbenzene	ND	0.050		mg/Kg	1	6/17/2019 7:02:59 PM	45608
Xylenes, Total	ND	0.099		mg/Kg	1	6/17/2019 7:02:59 PM	45608
Surr: 4-Bromofluorobenzene	97.8	80-120		%Rec	1	6/17/2019 7:02:59 PM	45608

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906780**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L7-12.5
Project: Red Hills PL
Collection Date: 6/12/2019 10:40:00 AM
Lab ID: 1906780-004 **Matrix:** SOIL **Received Date:** 6/14/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	6300	300		mg/Kg	100	6/21/2019	45691
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/18/2019 5:23:00 PM	45634
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/18/2019 5:23:00 PM	45634
Surr: DNOP	121	70-130		%Rec	1	6/18/2019 5:23:00 PM	45634
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/17/2019 7:26:31 PM	45608
Surr: BFB	98.1	73.8-119		%Rec	1	6/17/2019 7:26:31 PM	45608
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	6/17/2019 7:26:31 PM	45608
Toluene	ND	0.049		mg/Kg	1	6/17/2019 7:26:31 PM	45608
Ethylbenzene	ND	0.049		mg/Kg	1	6/17/2019 7:26:31 PM	45608
Xylenes, Total	ND	0.099		mg/Kg	1	6/17/2019 7:26:31 PM	45608
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	6/17/2019 7:26:31 PM	45608

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906780**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L7-22.5
Project: Red Hills PL
Collection Date: 6/12/2019 11:00:00 AM
Lab ID: 1906780-005 **Matrix:** SOIL **Received Date:** 6/14/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	380	60		mg/Kg	20	6/20/2019 12:12:30 PM	45691
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	6/18/2019 5:47:31 PM	45634
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/18/2019 5:47:31 PM	45634
Surr: DNOP	121	70-130		%Rec	1	6/18/2019 5:47:31 PM	45634
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/17/2019 7:49:54 PM	45608
Surr: BFB	90.1	73.8-119		%Rec	1	6/17/2019 7:49:54 PM	45608
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	6/17/2019 7:49:54 PM	45608
Toluene	ND	0.049		mg/Kg	1	6/17/2019 7:49:54 PM	45608
Ethylbenzene	ND	0.049		mg/Kg	1	6/17/2019 7:49:54 PM	45608
Xylenes, Total	ND	0.099		mg/Kg	1	6/17/2019 7:49:54 PM	45608
Surr: 4-Bromofluorobenzene	97.4	80-120		%Rec	1	6/17/2019 7:49:54 PM	45608

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906780**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW8 Comp
Project: Red Hills PL
Collection Date: 6/12/2019 11:25:00 AM
Lab ID: 1906780-006 **Matrix:** SOIL **Received Date:** 6/14/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	6/20/2019 12:24:55 PM	45691
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/18/2019 6:12:06 PM	45634
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/18/2019 6:12:06 PM	45634
Surr: DNOP	143	70-130	S	%Rec	1	6/18/2019 6:12:06 PM	45634
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/17/2019 8:13:23 PM	45608
Surr: BFB	89.7	73.8-119		%Rec	1	6/17/2019 8:13:23 PM	45608
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	6/17/2019 8:13:23 PM	45608
Toluene	ND	0.050		mg/Kg	1	6/17/2019 8:13:23 PM	45608
Ethylbenzene	ND	0.050		mg/Kg	1	6/17/2019 8:13:23 PM	45608
Xylenes, Total	ND	0.099		mg/Kg	1	6/17/2019 8:13:23 PM	45608
Surr: 4-Bromofluorobenzene	97.3	80-120		%Rec	1	6/17/2019 8:13:23 PM	45608

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906780**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW9 Comp
Project: Red Hills PL
Collection Date: 6/12/2019 11:45:00 AM
Lab ID: 1906780-007 **Matrix:** SOIL **Received Date:** 6/14/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	6/20/2019 12:37:19 PM	45691
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/18/2019 6:36:42 PM	45634
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/18/2019 6:36:42 PM	45634
Surr: DNOP	149	70-130	S	%Rec	1	6/18/2019 6:36:42 PM	45634
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/17/2019 8:36:57 PM	45608
Surr: BFB	91.6	73.8-119		%Rec	1	6/17/2019 8:36:57 PM	45608
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	6/17/2019 8:36:57 PM	45608
Toluene	ND	0.050		mg/Kg	1	6/17/2019 8:36:57 PM	45608
Ethylbenzene	ND	0.050		mg/Kg	1	6/17/2019 8:36:57 PM	45608
Xylenes, Total	ND	0.10		mg/Kg	1	6/17/2019 8:36:57 PM	45608
Surr: 4-Bromofluorobenzene	98.6	80-120		%Rec	1	6/17/2019 8:36:57 PM	45608

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906780**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: SW10 Comp
Project: Red Hills PL
Collection Date: 6/12/2019 12:00:00 PM
Lab ID: 1906780-008 **Matrix:** SOIL **Received Date:** 6/14/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Chloride	ND	60		mg/Kg	20	6/20/2019 12:49:44 PM	45691
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**JME**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/18/2019 7:01:19 PM	45634
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/18/2019 7:01:19 PM	45634
Surr: DNOP	159	70-130	S	%Rec	1	6/18/2019 7:01:19 PM	45634
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/17/2019 9:00:32 PM	45608
Surr: BFB	91.8	73.8-119		%Rec	1	6/17/2019 9:00:32 PM	45608
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	6/17/2019 9:00:32 PM	45608
Toluene	ND	0.050		mg/Kg	1	6/17/2019 9:00:32 PM	45608
Ethylbenzene	ND	0.050		mg/Kg	1	6/17/2019 9:00:32 PM	45608
Xylenes, Total	ND	0.10		mg/Kg	1	6/17/2019 9:00:32 PM	45608
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	6/17/2019 9:00:32 PM	45608

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 Limit
S	% Recovery outside of range due to dilution or matrix		

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

July 12, 2019

Heather Patterson

Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL:
FAX:

RE: Red Hills Pipeline OrderNo.: 1907180

Dear Heather Patterson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 7/3/2019 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1907180**
Date Reported: **7/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L4-4'
Project: Red Hills Pipeline
Collection Date: 7/1/2019 2:18:00 PM
Lab ID: 1907180-001 **Matrix:** SOIL **Received Date:** 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	3200	150		mg/Kg	50	7/11/2019 3:49:05 PM	46094
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	250	9.6		mg/Kg	1	7/9/2019 10:02:49 PM	46044
Motor Oil Range Organics (MRO)	110	48		mg/Kg	1	7/9/2019 10:02:49 PM	46044
Surr: DNOP	102	70-130		%Rec	1	7/9/2019 10:02:49 PM	46044
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/6/2019 11:01:41 AM	46028
Surr: BFB	90.5	73.8-119		%Rec	1	7/6/2019 11:01:41 AM	46028
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	7/6/2019 11:01:41 AM	46028
Toluene	ND	0.049		mg/Kg	1	7/6/2019 11:01:41 AM	46028
Ethylbenzene	ND	0.049		mg/Kg	1	7/6/2019 11:01:41 AM	46028
Xylenes, Total	ND	0.099		mg/Kg	1	7/6/2019 11:01:41 AM	46028
Surr: 4-Bromofluorobenzene	94.3	80-120		%Rec	1	7/6/2019 11:01:41 AM	46028

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907180**
Date Reported: **7/12/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: L6-4'
Project: Red Hills Pipeline
Collection Date: 7/1/2019 2:22:00 PM
Lab ID: 1907180-002 **Matrix:** SOIL **Received Date:** 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	2400	150		mg/Kg	50	7/11/2019 4:01:30 PM	46094
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/9/2019 10:25:01 PM	46044
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/9/2019 10:25:01 PM	46044
Surr: DNOP	100	70-130		%Rec	1	7/9/2019 10:25:01 PM	46044
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/6/2019 2:32:39 PM	46028
Surr: BFB	89.4	73.8-119		%Rec	1	7/6/2019 2:32:39 PM	46028
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	7/6/2019 2:32:39 PM	46028
Toluene	ND	0.050		mg/Kg	1	7/6/2019 2:32:39 PM	46028
Ethylbenzene	ND	0.050		mg/Kg	1	7/6/2019 2:32:39 PM	46028
Xylenes, Total	ND	0.099		mg/Kg	1	7/6/2019 2:32:39 PM	46028
Surr: 4-Bromofluorobenzene	93.4	80-120		%Rec	1	7/6/2019 2:32:39 PM	46028

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 Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1907180**
12-Jul-19

Client: Souder, Miller & Associates
Project: Red Hills Pipeline

Sample ID: **MB-46094** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **46094** RunNo: **61307**
Prep Date: **7/10/2019** Analysis Date: **7/10/2019** SeqNo: **2078230** Units: **mg/Kg**

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

Sample ID: **LCS-46094** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **46094** RunNo: **61307**
Prep Date: **7/10/2019** Analysis Date: **7/10/2019** SeqNo: **2078231** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.9	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 Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1907180**

12-Jul-19

Client: Souder, Miller & Associates

Project: Red Hills Pipeline

Sample ID: **LCS-46044** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **46044** RunNo: **61237**

Prep Date: **7/8/2019** Analysis Date: **7/9/2019** SeqNo: **2076913** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.6	63.9	124			
Surr: DNOP	4.5		5.000		90.6	70	130			

Sample ID: **MB-46044** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **46044** RunNo: **61237**

Prep Date: **7/8/2019** Analysis Date: **7/9/2019** SeqNo: **2076914** 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	8.9		10.00		89.0	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1907180**

12-Jul-19

Client: Souder, Miller & Associates

Project: Red Hills Pipeline

Sample ID: **MB-46028** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **46028** RunNo: **61186**

Prep Date: **7/5/2019** Analysis Date: **7/6/2019** SeqNo: **2073909** 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		90.3	73.8	119			

Sample ID: **LCS-46028** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **46028** RunNo: **61186**

Prep Date: **7/5/2019** Analysis Date: **7/6/2019** SeqNo: **2073910** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.5	80.1	123			
Surr: BFB	1000		1000		103	73.8	119			

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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1907180**

12-Jul-19

Client: Souder, Miller & Associates

Project: Red Hills Pipeline

Sample ID: **MB-46028** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **46028** RunNo: **61186**

Prep Date: **7/5/2019** Analysis Date: **7/6/2019** SeqNo: **2073938** 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	0.95		1.000		95.3	80	120			

Sample ID: **LCS-46028** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **46028** RunNo: **61186**

Prep Date: **7/5/2019** Analysis Date: **7/6/2019** SeqNo: **2073939** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	105	80	120			
Toluene	1.1	0.050	1.000	0	111	80	120			
Ethylbenzene	1.1	0.050	1.000	0	113	80	120			
Xylenes, Total	3.4	0.10	3.000	0	112	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Qualifiers:

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

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: 1907180 RcptNo: 1

Received By: **Leah Baca** 7/3/2019 8:55:00 AM Leah Baca

Completed By: **Michelle Garcia** 7/3/2019 1:38:26 PM Michelle Garcia

Reviewed By: YG 7/3/19

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: DAD 7/3/19

Special Handling (if applicable)

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

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Yes			
2	3.9	Good	Yes			

Chain-of-Custody Record

Client: SMA CARLSBAD

Mailing Address: Bill Direct

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

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

Project Name: Red Hills Pipeline

Project #:

Project Manager: Heather Patterson

Sampler: LA/JI

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 2.1 CF 0.5 = 2.6 3.4 CF 0.5 = 3.9C

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 Name	Container Type and #	Preservative Type	HEAL No. 1907180	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
7/1	14:16	SOIL	L4-4'	4oz		001	X	X					X			
7/1	14:22	SOIL	L6-4'	4oz		002	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					7/2/19	1300
7/2/19	1900		Leah Baca	Courier	7/3/19	0855

Remarks: Bill Direct Melbourne

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.

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-1
Project: RHWMS
Collection Date: 7/26/2019 8:22:00 AM
Lab ID: 1907F03-001 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	7.5		mg/Kg	5	8/2/2019 11:06:40 PM	46573
Bromide	ND	1.5		mg/Kg	5	8/2/2019 11:06:40 PM	46573
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/1/2019 11:00:03 PM	46514
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	8/1/2019 11:00:03 PM	46514
Surr: DNOP	81.8	70-130		%Rec	1	8/1/2019 11:00:03 PM	46514
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/1/2019 6:54:03 PM	46496
Surr: BFB	104	73.8-119		%Rec	1	8/1/2019 6:54:03 PM	46496
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	8/2/2019 7:38:54 PM	46496
Toluene	ND	0.049		mg/Kg	1	8/2/2019 7:38:54 PM	46496
Ethylbenzene	ND	0.049		mg/Kg	1	8/2/2019 7:38:54 PM	46496
Xylenes, Total	ND	0.099		mg/Kg	1	8/2/2019 7:38:54 PM	46496
Surr: 1,2-Dichloroethane-d4	97.1	70-130		%Rec	1	8/2/2019 7:38:54 PM	46496
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/2/2019 7:38:54 PM	46496
Surr: Dibromofluoromethane	99.1	70-130		%Rec	1	8/2/2019 7:38:54 PM	46496
Surr: Toluene-d8	99.6	70-130		%Rec	1	8/2/2019 7:38:54 PM	46496

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-2
Project: RHWMS
Collection Date: 7/26/2019 8:24:00 AM
Lab ID: 1907F03-002 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	15	7.5		mg/Kg	5	8/2/2019 11:31:29 PM	46573
Bromide	ND	1.5		mg/Kg	5	8/2/2019 11:31:29 PM	46573
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/2/2019 12:39:08 AM	46514
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/2/2019 12:39:08 AM	46514
Surr: DNOP	70.5	70-130		%Rec	1	8/2/2019 12:39:08 AM	46514
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/1/2019 7:16:52 PM	46496
Surr: BFB	110	73.8-119		%Rec	1	8/1/2019 7:16:52 PM	46496
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	8/2/2019 8:07:39 PM	46496
Toluene	ND	0.050		mg/Kg	1	8/2/2019 8:07:39 PM	46496
Ethylbenzene	ND	0.050		mg/Kg	1	8/2/2019 8:07:39 PM	46496
Xylenes, Total	ND	0.10		mg/Kg	1	8/2/2019 8:07:39 PM	46496
Surr: 1,2-Dichloroethane-d4	96.4	70-130		%Rec	1	8/2/2019 8:07:39 PM	46496
Surr: 4-Bromofluorobenzene	97.4	70-130		%Rec	1	8/2/2019 8:07:39 PM	46496
Surr: Dibromofluoromethane	97.6	70-130		%Rec	1	8/2/2019 8:07:39 PM	46496
Surr: Toluene-d8	97.8	70-130		%Rec	1	8/2/2019 8:07:39 PM	46496

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-3
Project: RHWMS
Collection Date: 7/26/2019 8:26:00 AM
Lab ID: 1907F03-003 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	34	7.5		mg/Kg	5	8/3/2019 12:21:08 AM	46573
Bromide	ND	1.5		mg/Kg	5	8/3/2019 12:21:08 AM	46573
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/2/2019 1:03:45 AM	46514
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/2/2019 1:03:45 AM	46514
Surr: DNOP	72.7	70-130		%Rec	1	8/2/2019 1:03:45 AM	46514
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/1/2019 7:39:42 PM	46496
Surr: BFB	109	73.8-119		%Rec	1	8/1/2019 7:39:42 PM	46496
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	8/2/2019 8:36:23 PM	46496
Toluene	ND	0.050		mg/Kg	1	8/2/2019 8:36:23 PM	46496
Ethylbenzene	ND	0.050		mg/Kg	1	8/2/2019 8:36:23 PM	46496
Xylenes, Total	ND	0.099		mg/Kg	1	8/2/2019 8:36:23 PM	46496
Surr: 1,2-Dichloroethane-d4	98.2	70-130		%Rec	1	8/2/2019 8:36:23 PM	46496
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	8/2/2019 8:36:23 PM	46496
Surr: Dibromofluoromethane	99.0	70-130		%Rec	1	8/2/2019 8:36:23 PM	46496
Surr: Toluene-d8	96.3	70-130		%Rec	1	8/2/2019 8:36:23 PM	46496

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-4
Project: RHWMS
Collection Date: 7/26/2019 8:28:00 AM
Lab ID: 1907F03-004 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	390	30		mg/Kg	20	8/3/2019 12:58:22 AM	46573
Bromide	3.0	0.30		mg/Kg	1	8/3/2019 12:45:57 AM	46573
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/2/2019 1:28:28 AM	46514
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/2/2019 1:28:28 AM	46514
Surr: DNOP	63.6	70-130	S	%Rec	1	8/2/2019 1:28:28 AM	46514
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/1/2019 8:02:30 PM	46496
Surr: BFB	109	73.8-119		%Rec	1	8/1/2019 8:02:30 PM	46496
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	8/2/2019 9:05:07 PM	46496
Toluene	ND	0.050		mg/Kg	1	8/2/2019 9:05:07 PM	46496
Ethylbenzene	ND	0.050		mg/Kg	1	8/2/2019 9:05:07 PM	46496
Xylenes, Total	ND	0.099		mg/Kg	1	8/2/2019 9:05:07 PM	46496
Surr: 1,2-Dichloroethane-d4	95.0	70-130		%Rec	1	8/2/2019 9:05:07 PM	46496
Surr: 4-Bromofluorobenzene	99.9	70-130		%Rec	1	8/2/2019 9:05:07 PM	46496
Surr: Dibromofluoromethane	98.6	70-130		%Rec	1	8/2/2019 9:05:07 PM	46496
Surr: Toluene-d8	101	70-130		%Rec	1	8/2/2019 9:05:07 PM	46496

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-5
Project: RHWMS
Collection Date: 7/26/2019 8:42:00 AM
Lab ID: 1907F03-005 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	620	30		mg/Kg	20	8/3/2019 1:23:11 AM	46573
Bromide	4.8	0.30		mg/Kg	1	8/3/2019 1:10:47 AM	46573
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/2/2019 1:53:18 AM	46514
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/2/2019 1:53:18 AM	46514
Surr: DNOP	57.8	70-130	S	%Rec	1	8/2/2019 1:53:18 AM	46514
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/1/2019 8:25:19 PM	46496
Surr: BFB	108	73.8-119		%Rec	1	8/1/2019 8:25:19 PM	46496
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	8/2/2019 9:33:49 PM	46496
Toluene	ND	0.049		mg/Kg	1	8/2/2019 9:33:49 PM	46496
Ethylbenzene	ND	0.049		mg/Kg	1	8/2/2019 9:33:49 PM	46496
Xylenes, Total	ND	0.098		mg/Kg	1	8/2/2019 9:33:49 PM	46496
Surr: 1,2-Dichloroethane-d4	92.4	70-130		%Rec	1	8/2/2019 9:33:49 PM	46496
Surr: 4-Bromofluorobenzene	99.2	70-130		%Rec	1	8/2/2019 9:33:49 PM	46496
Surr: Dibromofluoromethane	95.2	70-130		%Rec	1	8/2/2019 9:33:49 PM	46496
Surr: Toluene-d8	97.2	70-130		%Rec	1	8/2/2019 9:33:49 PM	46496

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-6
Project: RHWMS
Collection Date: 7/26/2019 8:43:00 AM
Lab ID: 1907F03-006 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	220	7.5		mg/Kg	5	8/2/2019 11:35:42 PM	46575
Bromide	1.9	1.5		mg/Kg	5	8/2/2019 11:35:42 PM	46575
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/2/2019 2:18:03 AM	46514
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/2/2019 2:18:03 AM	46514
Surr: DNOP	56.9	70-130	S	%Rec	1	8/2/2019 2:18:03 AM	46514
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/1/2019 8:48:07 PM	46496
Surr: BFB	106	73.8-119		%Rec	1	8/1/2019 8:48:07 PM	46496
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	8/3/2019 12:26:31 AM	46496
Toluene	ND	0.050		mg/Kg	1	8/3/2019 12:26:31 AM	46496
Ethylbenzene	ND	0.050		mg/Kg	1	8/3/2019 12:26:31 AM	46496
Xylenes, Total	ND	0.10		mg/Kg	1	8/3/2019 12:26:31 AM	46496
Surr: 1,2-Dichloroethane-d4	97.1	70-130		%Rec	1	8/3/2019 12:26:31 AM	46496
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	8/3/2019 12:26:31 AM	46496
Surr: Dibromofluoromethane	97.8	70-130		%Rec	1	8/3/2019 12:26:31 AM	46496
Surr: Toluene-d8	98.0	70-130		%Rec	1	8/3/2019 12:26:31 AM	46496

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-7
Project: RHWMS
Collection Date: 7/26/2019 8:44:00 AM
Lab ID: 1907F03-007 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	67	7.5		mg/Kg	5	8/3/2019 12:00:30 AM	46575
Bromide	ND	1.5		mg/Kg	5	8/3/2019 12:00:30 AM	46575
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/2/2019 2:43:02 AM	46514
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/2/2019 2:43:02 AM	46514
Surr: DNOP	50.5	70-130	S	%Rec	1	8/2/2019 2:43:02 AM	46514
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/1/2019 9:10:57 PM	46496
Surr: BFB	104	73.8-119		%Rec	1	8/1/2019 9:10:57 PM	46496
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	8/3/2019 12:55:13 AM	46496
Toluene	ND	0.049		mg/Kg	1	8/3/2019 12:55:13 AM	46496
Ethylbenzene	ND	0.049		mg/Kg	1	8/3/2019 12:55:13 AM	46496
Xylenes, Total	ND	0.099		mg/Kg	1	8/3/2019 12:55:13 AM	46496
Surr: 1,2-Dichloroethane-d4	97.3	70-130		%Rec	1	8/3/2019 12:55:13 AM	46496
Surr: 4-Bromofluorobenzene	97.1	70-130		%Rec	1	8/3/2019 12:55:13 AM	46496
Surr: Dibromofluoromethane	99.5	70-130		%Rec	1	8/3/2019 12:55:13 AM	46496
Surr: Toluene-d8	95.1	70-130		%Rec	1	8/3/2019 12:55:13 AM	46496

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-8
Project: RHWMS
Collection Date: 7/26/2019 8:46:00 AM
Lab ID: 1907F03-008 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	7.5		mg/Kg	5	8/3/2019 12:50:10 AM	46575
Bromide	ND	1.5		mg/Kg	5	8/3/2019 12:50:10 AM	46575
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/2/2019 3:07:46 AM	46514
Motor Oil Range Organics (MRO)	ND	52		mg/Kg	1	8/2/2019 3:07:46 AM	46514
Surr: DNOP	53.4	70-130	S	%Rec	1	8/2/2019 3:07:46 AM	46514
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/1/2019 9:33:43 PM	46496
Surr: BFB	107	73.8-119		%Rec	1	8/1/2019 9:33:43 PM	46496
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	8/3/2019 1:23:55 AM	46496
Toluene	ND	0.050		mg/Kg	1	8/3/2019 1:23:55 AM	46496
Ethylbenzene	ND	0.050		mg/Kg	1	8/3/2019 1:23:55 AM	46496
Xylenes, Total	ND	0.10		mg/Kg	1	8/3/2019 1:23:55 AM	46496
Surr: 1,2-Dichloroethane-d4	97.7	70-130		%Rec	1	8/3/2019 1:23:55 AM	46496
Surr: 4-Bromofluorobenzene	97.2	70-130		%Rec	1	8/3/2019 1:23:55 AM	46496
Surr: Dibromofluoromethane	98.8	70-130		%Rec	1	8/3/2019 1:23:55 AM	46496
Surr: Toluene-d8	100	70-130		%Rec	1	8/3/2019 1:23:55 AM	46496

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-9
Project: RHWMS
Collection Date: 7/26/2019 9:06:00 AM
Lab ID: 1907F03-009 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	7.5		mg/Kg	5	8/3/2019 1:39:47 AM	46575
Bromide	ND	1.5		mg/Kg	5	8/3/2019 1:39:47 AM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/2/2019 5:44:53 AM	46508
Surr: BFB	91.1	70-130		%Rec	1	8/2/2019 5:44:53 AM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/1/2019 9:25:35 AM	46517
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/1/2019 9:25:35 AM	46517
Surr: DNOP	86.2	70-130		%Rec	1	8/1/2019 9:25:35 AM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	8/1/2019 4:01:21 PM	46508
Toluene	ND	0.050		mg/Kg	1	8/1/2019 4:01:21 PM	46508
Ethylbenzene	ND	0.050		mg/Kg	1	8/1/2019 4:01:21 PM	46508
Xylenes, Total	ND	0.099		mg/Kg	1	8/1/2019 4:01:21 PM	46508
Surr: 1,2-Dichloroethane-d4	85.1	70-130		%Rec	1	8/1/2019 4:01:21 PM	46508
Surr: 4-Bromofluorobenzene	93.7	70-130		%Rec	1	8/1/2019 4:01:21 PM	46508
Surr: Dibromofluoromethane	86.4	70-130		%Rec	1	8/1/2019 4:01:21 PM	46508
Surr: Toluene-d8	81.4	70-130		%Rec	1	8/1/2019 4:01:21 PM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-10
Project: RHWMS
Collection Date: 7/26/2019 9:08:00 AM
Lab ID: 1907F03-010 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	210	7.5		mg/Kg	5	8/3/2019 2:04:37 AM	46575
Bromide	1.7	1.5		mg/Kg	5	8/3/2019 2:04:37 AM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/1/2019 5:30:35 PM	46508
Surr: BFB	91.8	70-130		%Rec	1	8/1/2019 5:30:35 PM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/1/2019 2:22:13 PM	46517
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/1/2019 2:22:13 PM	46517
Surr: DNOP	83.5	70-130		%Rec	1	8/1/2019 2:22:13 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	8/1/2019 5:30:35 PM	46508
Toluene	ND	0.049		mg/Kg	1	8/1/2019 5:30:35 PM	46508
Ethylbenzene	ND	0.049		mg/Kg	1	8/1/2019 5:30:35 PM	46508
Xylenes, Total	ND	0.098		mg/Kg	1	8/1/2019 5:30:35 PM	46508
Surr: 1,2-Dichloroethane-d4	90.9	70-130		%Rec	1	8/1/2019 5:30:35 PM	46508
Surr: 4-Bromofluorobenzene	99.8	70-130		%Rec	1	8/1/2019 5:30:35 PM	46508
Surr: Dibromofluoromethane	87.5	70-130		%Rec	1	8/1/2019 5:30:35 PM	46508
Surr: Toluene-d8	92.8	70-130		%Rec	1	8/1/2019 5:30:35 PM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-11
Project: RHWMS
Collection Date: 7/26/2019 9:12:00 AM
Lab ID: 1907F03-011 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	7.5		mg/Kg	5	8/3/2019 2:29:26 AM	46575
Bromide	ND	1.5		mg/Kg	5	8/3/2019 2:29:26 AM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/1/2019 6:59:27 PM	46508
Surr: BFB	90.3	70-130		%Rec	1	8/1/2019 6:59:27 PM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/1/2019 2:46:40 PM	46517
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/1/2019 2:46:40 PM	46517
Surr: DNOP	79.2	70-130		%Rec	1	8/1/2019 2:46:40 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	8/1/2019 6:59:27 PM	46508
Toluene	ND	0.049		mg/Kg	1	8/1/2019 6:59:27 PM	46508
Ethylbenzene	ND	0.049		mg/Kg	1	8/1/2019 6:59:27 PM	46508
Xylenes, Total	ND	0.098		mg/Kg	1	8/1/2019 6:59:27 PM	46508
Surr: 1,2-Dichloroethane-d4	89.5	70-130		%Rec	1	8/1/2019 6:59:27 PM	46508
Surr: 4-Bromofluorobenzene	96.8	70-130		%Rec	1	8/1/2019 6:59:27 PM	46508
Surr: Dibromofluoromethane	89.3	70-130		%Rec	1	8/1/2019 6:59:27 PM	46508
Surr: Toluene-d8	94.7	70-130		%Rec	1	8/1/2019 6:59:27 PM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-12
Project: RHWMS
Collection Date: 7/26/2019 9:11:00 AM
Lab ID: 1907F03-012 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	340	30		mg/Kg	20	8/3/2019 3:56:18 AM	46575
Bromide	3.0	1.5		mg/Kg	5	8/3/2019 3:43:53 AM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/1/2019 7:28:54 PM	46508
Surr: BFB	92.3	70-130		%Rec	1	8/1/2019 7:28:54 PM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/1/2019 3:11:15 PM	46517
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/1/2019 3:11:15 PM	46517
Surr: DNOP	82.3	70-130		%Rec	1	8/1/2019 3:11:15 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**DJF**
Benzene	ND	0.025		mg/Kg	1	8/1/2019 7:28:54 PM	46508
Toluene	ND	0.050		mg/Kg	1	8/1/2019 7:28:54 PM	46508
Ethylbenzene	ND	0.050		mg/Kg	1	8/1/2019 7:28:54 PM	46508
Xylenes, Total	ND	0.10		mg/Kg	1	8/1/2019 7:28:54 PM	46508
Surr: 1,2-Dichloroethane-d4	87.1	70-130		%Rec	1	8/1/2019 7:28:54 PM	46508
Surr: 4-Bromofluorobenzene	98.8	70-130		%Rec	1	8/1/2019 7:28:54 PM	46508
Surr: Dibromofluoromethane	89.0	70-130		%Rec	1	8/1/2019 7:28:54 PM	46508
Surr: Toluene-d8	93.8	70-130		%Rec	1	8/1/2019 7:28:54 PM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-13
Project: RHWMS
Collection Date: 7/26/2019 9:32:00 AM
Lab ID: 1907F03-013 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	96	7.5		mg/Kg	5	8/3/2019 4:08:43 AM	46575
Bromide	ND	1.5		mg/Kg	5	8/3/2019 4:08:43 AM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/1/2019 7:58:20 PM	46508
Surr: BFB	90.9	70-130		%Rec	1	8/1/2019 7:58:20 PM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/1/2019 3:35:46 PM	46517
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/1/2019 3:35:46 PM	46517
Surr: DNOP	81.3	70-130		%Rec	1	8/1/2019 3:35:46 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**DJF**
Benzene	ND	0.025		mg/Kg	1	8/1/2019 7:58:20 PM	46508
Toluene	ND	0.049		mg/Kg	1	8/1/2019 7:58:20 PM	46508
Ethylbenzene	ND	0.049		mg/Kg	1	8/1/2019 7:58:20 PM	46508
Xylenes, Total	ND	0.099		mg/Kg	1	8/1/2019 7:58:20 PM	46508
Surr: 1,2-Dichloroethane-d4	86.9	70-130		%Rec	1	8/1/2019 7:58:20 PM	46508
Surr: 4-Bromofluorobenzene	96.7	70-130		%Rec	1	8/1/2019 7:58:20 PM	46508
Surr: Dibromofluoromethane	89.0	70-130		%Rec	1	8/1/2019 7:58:20 PM	46508
Surr: Toluene-d8	94.4	70-130		%Rec	1	8/1/2019 7:58:20 PM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-14
Project: RHWMS
Collection Date: 7/26/2019 9:33:00 AM
Lab ID: 1907F03-014 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	ND	7.5		mg/Kg	5	8/3/2019 4:33:31 AM	46575
Bromide	ND	1.5		mg/Kg	5	8/3/2019 4:33:31 AM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/1/2019 8:27:45 PM	46508
Surr: BFB	93.2	70-130		%Rec	1	8/1/2019 8:27:45 PM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/1/2019 4:00:22 PM	46517
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	8/1/2019 4:00:22 PM	46517
Surr: DNOP	75.0	70-130		%Rec	1	8/1/2019 4:00:22 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**DJF**
Benzene	ND	0.025		mg/Kg	1	8/1/2019 8:27:45 PM	46508
Toluene	ND	0.050		mg/Kg	1	8/1/2019 8:27:45 PM	46508
Ethylbenzene	ND	0.050		mg/Kg	1	8/1/2019 8:27:45 PM	46508
Xylenes, Total	ND	0.099		mg/Kg	1	8/1/2019 8:27:45 PM	46508
Surr: 1,2-Dichloroethane-d4	88.2	70-130		%Rec	1	8/1/2019 8:27:45 PM	46508
Surr: 4-Bromofluorobenzene	95.5	70-130		%Rec	1	8/1/2019 8:27:45 PM	46508
Surr: Dibromofluoromethane	90.8	70-130		%Rec	1	8/1/2019 8:27:45 PM	46508
Surr: Toluene-d8	97.5	70-130		%Rec	1	8/1/2019 8:27:45 PM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-15
Project: RHWMS
Collection Date: 7/26/2019 9:35:00 AM
Lab ID: 1907F03-015 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	890	30		mg/Kg	20	8/3/2019 5:10:44 AM	46575
Bromide	6.7	1.5		mg/Kg	5	8/3/2019 4:58:20 AM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/1/2019 8:57:06 PM	46508
Surr: BFB	92.2	70-130		%Rec	1	8/1/2019 8:57:06 PM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/1/2019 4:24:50 PM	46517
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/1/2019 4:24:50 PM	46517
Surr: DNOP	70.0	70-130		%Rec	1	8/1/2019 4:24:50 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**DJF**
Benzene	ND	0.025		mg/Kg	1	8/1/2019 8:57:06 PM	46508
Toluene	ND	0.049		mg/Kg	1	8/1/2019 8:57:06 PM	46508
Ethylbenzene	ND	0.049		mg/Kg	1	8/1/2019 8:57:06 PM	46508
Xylenes, Total	ND	0.098		mg/Kg	1	8/1/2019 8:57:06 PM	46508
Surr: 1,2-Dichloroethane-d4	86.3	70-130		%Rec	1	8/1/2019 8:57:06 PM	46508
Surr: 4-Bromofluorobenzene	95.2	70-130		%Rec	1	8/1/2019 8:57:06 PM	46508
Surr: Dibromofluoromethane	85.3	70-130		%Rec	1	8/1/2019 8:57:06 PM	46508
Surr: Toluene-d8	94.7	70-130		%Rec	1	8/1/2019 8:57:06 PM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-16
Project: RHWMS
Collection Date: 7/26/2019 9:35:00 AM
Lab ID: 1907F03-016 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	24	7.5		mg/Kg	5	8/5/2019 5:59:02 PM	46575
Bromide	ND	1.5		mg/Kg	5	8/5/2019 5:59:02 PM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/1/2019 9:26:27 PM	46508
Surr: BFB	96.2	70-130		%Rec	1	8/1/2019 9:26:27 PM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/1/2019 4:49:25 PM	46517
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/1/2019 4:49:25 PM	46517
Surr: DNOP	72.8	70-130		%Rec	1	8/1/2019 4:49:25 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**DJF**
Benzene	ND	0.025		mg/Kg	1	8/1/2019 9:26:27 PM	46508
Toluene	ND	0.050		mg/Kg	1	8/1/2019 9:26:27 PM	46508
Ethylbenzene	ND	0.050		mg/Kg	1	8/1/2019 9:26:27 PM	46508
Xylenes, Total	ND	0.10		mg/Kg	1	8/1/2019 9:26:27 PM	46508
Surr: 1,2-Dichloroethane-d4	86.6	70-130		%Rec	1	8/1/2019 9:26:27 PM	46508
Surr: 4-Bromofluorobenzene	97.1	70-130		%Rec	1	8/1/2019 9:26:27 PM	46508
Surr: Dibromofluoromethane	88.0	70-130		%Rec	1	8/1/2019 9:26:27 PM	46508
Surr: Toluene-d8	97.4	70-130		%Rec	1	8/1/2019 9:26:27 PM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-17
Project: RHWMS
Collection Date: 7/26/2019 9:38:00 AM
Lab ID: 1907F03-017 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	1300	75		mg/Kg	50	8/6/2019 1:22:31 PM	46575
Bromide	11	1.5		mg/Kg	5	8/5/2019 6:23:51 PM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/1/2019 11:52:50 PM	46508
Surr: BFB	91.7	70-130		%Rec	1	8/1/2019 11:52:50 PM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/1/2019 5:13:55 PM	46517
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/1/2019 5:13:55 PM	46517
Surr: DNOP	75.9	70-130		%Rec	1	8/1/2019 5:13:55 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	8/1/2019 11:52:50 PM	46508
Toluene	ND	0.049		mg/Kg	1	8/1/2019 11:52:50 PM	46508
Ethylbenzene	ND	0.049		mg/Kg	1	8/1/2019 11:52:50 PM	46508
Xylenes, Total	ND	0.099		mg/Kg	1	8/1/2019 11:52:50 PM	46508
Surr: 1,2-Dichloroethane-d4	86.9	70-130		%Rec	1	8/1/2019 11:52:50 PM	46508
Surr: 4-Bromofluorobenzene	93.5	70-130		%Rec	1	8/1/2019 11:52:50 PM	46508
Surr: Dibromofluoromethane	88.3	70-130		%Rec	1	8/1/2019 11:52:50 PM	46508
Surr: Toluene-d8	98.9	70-130		%Rec	1	8/1/2019 11:52:50 PM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Wall-18
Project: RHWMS
Collection Date: 7/26/2019 9:40:00 AM
Lab ID: 1907F03-018 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	2300	75		mg/Kg	50	8/6/2019 1:34:56 PM	46575
Bromide	17	1.5		mg/Kg	5	8/5/2019 6:48:39 PM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/2/2019 12:22:02 AM	46508
Surr: BFB	95.8	70-130		%Rec	1	8/2/2019 12:22:02 AM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/1/2019 5:38:45 PM	46517
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/1/2019 5:38:45 PM	46517
Surr: DNOP	77.4	70-130		%Rec	1	8/1/2019 5:38:45 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	8/2/2019 12:22:02 AM	46508
Toluene	ND	0.050		mg/Kg	1	8/2/2019 12:22:02 AM	46508
Ethylbenzene	ND	0.050		mg/Kg	1	8/2/2019 12:22:02 AM	46508
Xylenes, Total	ND	0.10		mg/Kg	1	8/2/2019 12:22:02 AM	46508
Surr: 1,2-Dichloroethane-d4	85.4	70-130		%Rec	1	8/2/2019 12:22:02 AM	46508
Surr: 4-Bromofluorobenzene	99.1	70-130		%Rec	1	8/2/2019 12:22:02 AM	46508
Surr: Dibromofluoromethane	86.9	70-130		%Rec	1	8/2/2019 12:22:02 AM	46508
Surr: Toluene-d8	99.9	70-130		%Rec	1	8/2/2019 12:22:02 AM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Floor-1
Project: RHWMS
Collection Date: 7/26/2019 9:50:00 AM
Lab ID: 1907F03-019 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	3600	150		mg/Kg	100	8/6/2019 1:47:20 PM	46575
Bromide	26	1.5		mg/Kg	5	8/5/2019 7:38:18 PM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/2/2019 12:51:11 AM	46508
Surr: BFB	90.9	70-130		%Rec	1	8/2/2019 12:51:11 AM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/1/2019 6:03:29 PM	46517
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/1/2019 6:03:29 PM	46517
Surr: DNOP	75.3	70-130		%Rec	1	8/1/2019 6:03:29 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	8/2/2019 12:51:11 AM	46508
Toluene	ND	0.050		mg/Kg	1	8/2/2019 12:51:11 AM	46508
Ethylbenzene	ND	0.050		mg/Kg	1	8/2/2019 12:51:11 AM	46508
Xylenes, Total	ND	0.10		mg/Kg	1	8/2/2019 12:51:11 AM	46508
Surr: 1,2-Dichloroethane-d4	87.4	70-130		%Rec	1	8/2/2019 12:51:11 AM	46508
Surr: 4-Bromofluorobenzene	96.0	70-130		%Rec	1	8/2/2019 12:51:11 AM	46508
Surr: Dibromofluoromethane	86.4	70-130		%Rec	1	8/2/2019 12:51:11 AM	46508
Surr: Toluene-d8	97.5	70-130		%Rec	1	8/2/2019 12:51:11 AM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Floor-2
Project: RHWMS
Collection Date: 7/26/2019 9:53:00 AM
Lab ID: 1907F03-020 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	11000	750		mg/Kg	500	8/6/2019 1:59:45 PM	46575
Bromide	98	1.5		mg/Kg	5	8/5/2019 8:03:08 PM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/2/2019 1:20:20 AM	46508
Surr: BFB	96.1	70-130		%Rec	1	8/2/2019 1:20:20 AM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/1/2019 6:28:20 PM	46517
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/1/2019 6:28:20 PM	46517
Surr: DNOP	76.6	70-130		%Rec	1	8/1/2019 6:28:20 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**DJF**
Benzene	ND	0.024		mg/Kg	1	8/2/2019 1:20:20 AM	46508
Toluene	ND	0.049		mg/Kg	1	8/2/2019 1:20:20 AM	46508
Ethylbenzene	ND	0.049		mg/Kg	1	8/2/2019 1:20:20 AM	46508
Xylenes, Total	ND	0.098		mg/Kg	1	8/2/2019 1:20:20 AM	46508
Surr: 1,2-Dichloroethane-d4	88.0	70-130		%Rec	1	8/2/2019 1:20:20 AM	46508
Surr: 4-Bromofluorobenzene	95.9	70-130		%Rec	1	8/2/2019 1:20:20 AM	46508
Surr: Dibromofluoromethane	88.4	70-130		%Rec	1	8/2/2019 1:20:20 AM	46508
Surr: Toluene-d8	98.9	70-130		%Rec	1	8/2/2019 1:20:20 AM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Floor-3
Project: RHWMS
Collection Date: 7/26/2019 9:56:00 AM
Lab ID: 1907F03-021 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	4400	150		mg/Kg	100	8/6/2019 2:12:09 PM	46575
Bromide	33	1.5		mg/Kg	5	8/5/2019 8:27:57 PM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/2/2019 1:49:39 AM	46508
Surr: BFB	92.6	70-130		%Rec	1	8/2/2019 1:49:39 AM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/1/2019 6:52:56 PM	46517
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/1/2019 6:52:56 PM	46517
Surr: DNOP	79.6	70-130		%Rec	1	8/1/2019 6:52:56 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	8/2/2019 1:49:39 AM	46508
Toluene	ND	0.049		mg/Kg	1	8/2/2019 1:49:39 AM	46508
Ethylbenzene	ND	0.049		mg/Kg	1	8/2/2019 1:49:39 AM	46508
Xylenes, Total	ND	0.098		mg/Kg	1	8/2/2019 1:49:39 AM	46508
Surr: 1,2-Dichloroethane-d4	86.4	70-130		%Rec	1	8/2/2019 1:49:39 AM	46508
Surr: 4-Bromofluorobenzene	96.0	70-130		%Rec	1	8/2/2019 1:49:39 AM	46508
Surr: Dibromofluoromethane	87.7	70-130		%Rec	1	8/2/2019 1:49:39 AM	46508
Surr: Toluene-d8	98.2	70-130		%Rec	1	8/2/2019 1:49:39 AM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Floor-4
Project: RHWMS
Collection Date: 7/26/2019 10:00:00 AM
Lab ID: 1907F03-022 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	12000	750		mg/Kg	500	8/6/2019 2:24:33 PM	46575
Bromide	100	1.5		mg/Kg	5	8/5/2019 8:52:46 PM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/2/2019 2:19:13 AM	46508
Surr: BFB	92.9	70-130		%Rec	1	8/2/2019 2:19:13 AM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	8/1/2019 7:17:37 PM	46517
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/1/2019 7:17:37 PM	46517
Surr: DNOP	75.6	70-130		%Rec	1	8/1/2019 7:17:37 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	8/2/2019 2:19:13 AM	46508
Toluene	ND	0.050		mg/Kg	1	8/2/2019 2:19:13 AM	46508
Ethylbenzene	ND	0.050		mg/Kg	1	8/2/2019 2:19:13 AM	46508
Xylenes, Total	ND	0.099		mg/Kg	1	8/2/2019 2:19:13 AM	46508
Surr: 1,2-Dichloroethane-d4	88.0	70-130		%Rec	1	8/2/2019 2:19:13 AM	46508
Surr: 4-Bromofluorobenzene	95.4	70-130		%Rec	1	8/2/2019 2:19:13 AM	46508
Surr: Dibromofluoromethane	89.2	70-130		%Rec	1	8/2/2019 2:19:13 AM	46508
Surr: Toluene-d8	96.6	70-130		%Rec	1	8/2/2019 2:19:13 AM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Floor-5
Project: RHWMS
Collection Date: 7/26/2019 10:02:00 AM
Lab ID: 1907F03-023 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	22000	750		mg/Kg	500	8/6/2019 2:36:57 PM	46575
Bromide	180	1.5		mg/Kg	5	8/5/2019 9:17:35 PM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**DJF**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/2/2019 2:48:40 AM	46508
Surr: BFB	90.8	70-130		%Rec	1	8/2/2019 2:48:40 AM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	8/1/2019 7:42:05 PM	46517
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/1/2019 7:42:05 PM	46517
Surr: DNOP	81.8	70-130		%Rec	1	8/1/2019 7:42:05 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**DJF**
Benzene	ND	0.025		mg/Kg	1	8/2/2019 2:48:40 AM	46508
Toluene	ND	0.050		mg/Kg	1	8/2/2019 2:48:40 AM	46508
Ethylbenzene	ND	0.050		mg/Kg	1	8/2/2019 2:48:40 AM	46508
Xylenes, Total	ND	0.10		mg/Kg	1	8/2/2019 2:48:40 AM	46508
Surr: 1,2-Dichloroethane-d4	87.2	70-130		%Rec	1	8/2/2019 2:48:40 AM	46508
Surr: 4-Bromofluorobenzene	95.8	70-130		%Rec	1	8/2/2019 2:48:40 AM	46508
Surr: Dibromofluoromethane	88.1	70-130		%Rec	1	8/2/2019 2:48:40 AM	46508
Surr: Toluene-d8	96.3	70-130		%Rec	1	8/2/2019 2:48:40 AM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Floor-6
Project: RHWMS
Collection Date: 7/26/2019 10:05:00 AM
Lab ID: 1907F03-024 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	150	7.5		mg/Kg	5	8/5/2019 10:07:14 PM	46575
Bromide	ND	1.5		mg/Kg	5	8/5/2019 10:07:14 PM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/2/2019 3:18:08 AM	46508
Surr: BFB	94.0	70-130		%Rec	1	8/2/2019 3:18:08 AM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/1/2019 8:06:46 PM	46517
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/1/2019 8:06:46 PM	46517
Surr: DNOP	69.6	70-130	S	%Rec	1	8/1/2019 8:06:46 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	8/2/2019 3:18:08 AM	46508
Toluene	ND	0.050		mg/Kg	1	8/2/2019 3:18:08 AM	46508
Ethylbenzene	ND	0.050		mg/Kg	1	8/2/2019 3:18:08 AM	46508
Xylenes, Total	ND	0.099		mg/Kg	1	8/2/2019 3:18:08 AM	46508
Surr: 1,2-Dichloroethane-d4	88.0	70-130		%Rec	1	8/2/2019 3:18:08 AM	46508
Surr: 4-Bromofluorobenzene	92.3	70-130		%Rec	1	8/2/2019 3:18:08 AM	46508
Surr: Dibromofluoromethane	90.7	70-130		%Rec	1	8/2/2019 3:18:08 AM	46508
Surr: Toluene-d8	95.8	70-130		%Rec	1	8/2/2019 3:18:08 AM	46508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company **Client Sample ID:** Floor-7
Project: RHWMS **Collection Date:** 7/26/2019 10:08:00 AM
Lab ID: 1907F03-025 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	12000	750		mg/Kg	500	8/6/2019 3:14:10 PM	46575
Bromide	97	6.0		mg/Kg	20	8/5/2019 10:44:27 PM	46575
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/2/2019 3:47:44 AM	46508
Surr: BFB	88.5	70-130		%Rec	1	8/2/2019 3:47:44 AM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/1/2019 8:31:29 PM	46517
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/1/2019 8:31:29 PM	46517
Surr: DNOP	67.2	70-130	S	%Rec	1	8/1/2019 8:31:29 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	8/2/2019 3:47:44 AM	46508
Toluene	ND	0.049		mg/Kg	1	8/2/2019 3:47:44 AM	46508
Ethylbenzene	ND	0.049		mg/Kg	1	8/2/2019 3:47:44 AM	46508
Xylenes, Total	ND	0.099		mg/Kg	1	8/2/2019 3:47:44 AM	46508
Surr: 1,2-Dichloroethane-d4	90.3	70-130		%Rec	1	8/2/2019 3:47:44 AM	46508
Surr: 4-Bromofluorobenzene	91.7	70-130		%Rec	1	8/2/2019 3:47:44 AM	46508
Surr: Dibromofluoromethane	92.3	70-130		%Rec	1	8/2/2019 3:47:44 AM	46508
Surr: Toluene-d8	94.7	70-130		%Rec	1	8/2/2019 3:47:44 AM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Floor-8
Project: RHWMS
Collection Date: 7/26/2019 10:11:00 AM
Lab ID: 1907F03-026 **Matrix:** SOIL **Received Date:** 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	20000	750		mg/Kg	500	8/6/2019 3:26:35 PM	46581
Bromide	150	6.0		mg/Kg	20	8/5/2019 11:09:15 PM	46581
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/2/2019 11:51:20 AM	46508
Surr: BFB	87.8	70-130		%Rec	1	8/2/2019 11:51:20 AM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	8/1/2019 8:56:23 PM	46517
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/1/2019 8:56:23 PM	46517
Surr: DNOP	81.3	70-130		%Rec	1	8/1/2019 8:56:23 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	8/2/2019 11:51:20 AM	46508
Toluene	ND	0.050		mg/Kg	1	8/2/2019 11:51:20 AM	46508
Ethylbenzene	ND	0.050		mg/Kg	1	8/2/2019 11:51:20 AM	46508
Xylenes, Total	ND	0.099		mg/Kg	1	8/2/2019 11:51:20 AM	46508
Surr: 1,2-Dichloroethane-d4	88.4	70-130		%Rec	1	8/2/2019 11:51:20 AM	46508
Surr: 4-Bromofluorobenzene	91.2	70-130		%Rec	1	8/2/2019 11:51:20 AM	46508
Surr: Dibromofluoromethane	87.6	70-130		%Rec	1	8/2/2019 11:51:20 AM	46508
Surr: Toluene-d8	94.6	70-130		%Rec	1	8/2/2019 11:51:20 AM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1907F03**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Client Sample ID: Floor-9
Project: RHWMS
Collection Date: 7/26/2019 10:14:00 AM
Lab ID: 1907F03-027
Matrix: SOIL
Received Date: 7/30/2019 8:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CAS**
Chloride	390	30		mg/Kg	20	8/5/2019 11:34:04 PM	46581
Bromide	3.2	1.5		mg/Kg	5	8/5/2019 11:21:40 PM	46581
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst:	**DJF**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/2/2019 4:46:44 AM	46508
Surr: BFB	90.0	70-130		%Rec	1	8/2/2019 4:46:44 AM	46508
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/1/2019 9:21:09 PM	46517
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/1/2019 9:21:09 PM	46517
Surr: DNOP	80.1	70-130		%Rec	1	8/1/2019 9:21:09 PM	46517
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst:	**DJF**
Benzene	ND	0.025		mg/Kg	1	8/2/2019 4:46:44 AM	46508
Toluene	ND	0.049		mg/Kg	1	8/2/2019 4:46:44 AM	46508
Ethylbenzene	ND	0.049		mg/Kg	1	8/2/2019 4:46:44 AM	46508
Xylenes, Total	ND	0.099		mg/Kg	1	8/2/2019 4:46:44 AM	46508
Surr: 1,2-Dichloroethane-d4	87.3	70-130		%Rec	1	8/2/2019 4:46:44 AM	46508
Surr: 4-Bromofluorobenzene	92.5	70-130		%Rec	1	8/2/2019 4:46:44 AM	46508
Surr: Dibromofluoromethane	89.1	70-130		%Rec	1	8/2/2019 4:46:44 AM	46508
Surr: Toluene-d8	94.4	70-130		%Rec	1	8/2/2019 4:46:44 AM	46508

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 Limit
S	% Recovery outside of range due to dilution or matrix		

APPENDIX – C

C-141

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 Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NAB1915037612
District RP	2RP-5455
Facility ID	fAB1915037237
Application ID	pAB1915037372

Release Notification

Responsible Party

Responsible Party Mewbourne Oil Company	OGRID 14744
Contact Name Robbie Runnels	Contact Telephone 575-393-5905
Contact email rrunnels@mewbourne.com	Incident # *(assigned by OCD)*
Contact mailing address P.O. Box 5270, Hobbs, NM 88241	

Location of Release Source

Latitude 32.037082 Longitude -103.669238
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Red Hills Water Management System	Site Type Recycle Facility
Date Release Discovered 6/25/2019 @ 19:00	API# *(if applicable) NAB1915037612*

Unit Letter	Section	Township	Range	County
L	36	25S	31E	Eddy

Surface Owner: x State ☐ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
x Produced Water	Volume Released (bbls) Estimated 50	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	x Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
SWD Pipeline failed at a fused connection and leaked on pipeline ROW.		

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? x☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? The release was larger than 25 bbls.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Notice was given to Rick Rickman on 6/26/2019 at 13:54 by phone from Robbie Runnels.

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why: N/A

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: __Robbie Runnels_____ Title: _Environmental Representative_____

Signature: _____ Date: _9/27/2019_____

email: __rrunnels@mewbourne.com_____ Telephone: _575-393-5905_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes x No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes x No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes x No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes x No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes x No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes x No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes x No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes x No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes x No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes x No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes x No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes x No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☒ Boring or excavation logs
☒ Photographs including date and GIS information
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: _Robbie Runnels_____ Title: Environmental Representative_____

Signature:_____ Date: _9/27/2019_____

email: __runnels@mewbourne.com_____ Telephone: _575-393-5905_____

OCD Only

Received by: _____ Date: _____

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

☒ Detailed description of proposed remediation technique
☒ Scaled sitemap with GPS coordinates showing delineation points
☒ Estimated volume of material to be remediated
☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☒ Extents of contamination must be fully delineated.

☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: _Robbie Runnels_____ Title: _Environmental Specialist_____

Signature: _____ Date: _9/27/2019_____

email: __rrunnels@mewbourne.com_____ Telephone: __575-393-5905_____

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: ___Robbie Runnels_____ Title: _Environmental Representative_____

Signature: _____ Date: ___10/30/2019_____

email: __rrunnels@mewbourne.com_____ Telephone: _575-393-5905_____

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____