

## **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

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Robbie Runnels Environmental Specialist

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### **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 6<sup>th</sup>, 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 9<sup>th</sup>, 2019, and an initial C-141 was submitted to NMOCD on May 29<sup>th</sup>, 2019, for approval.

Initial sampling began on May 28<sup>th</sup>, 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 12<sup>th</sup>, 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-togroundwater 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 10<sup>th</sup>, 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.

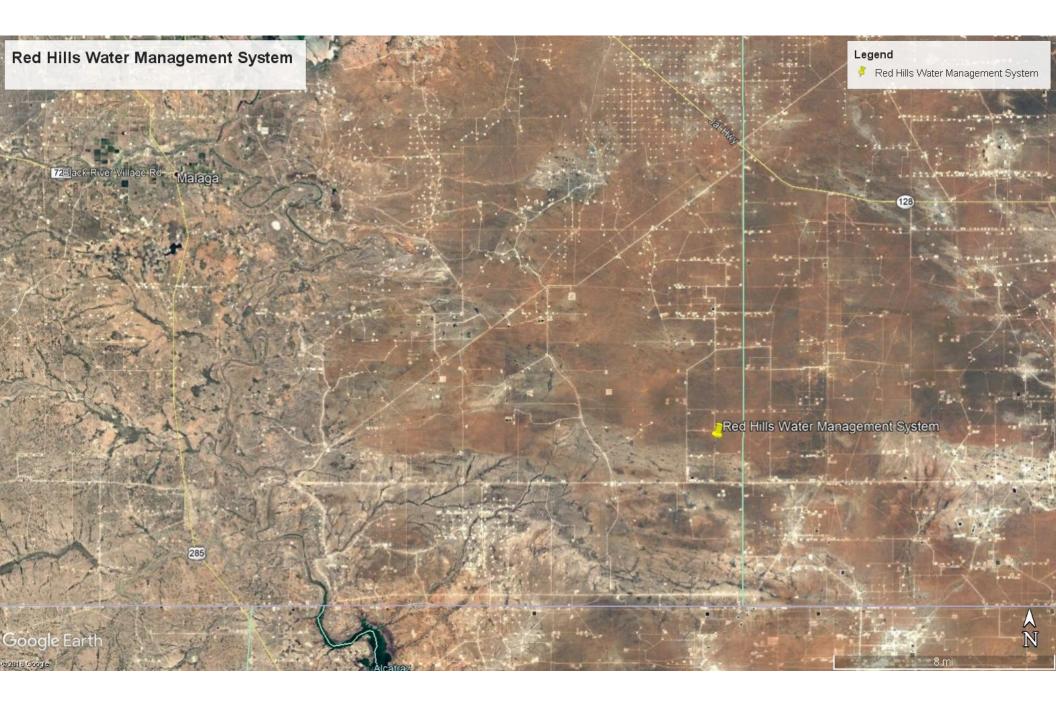
## 7.0 DISTRIBUTION:

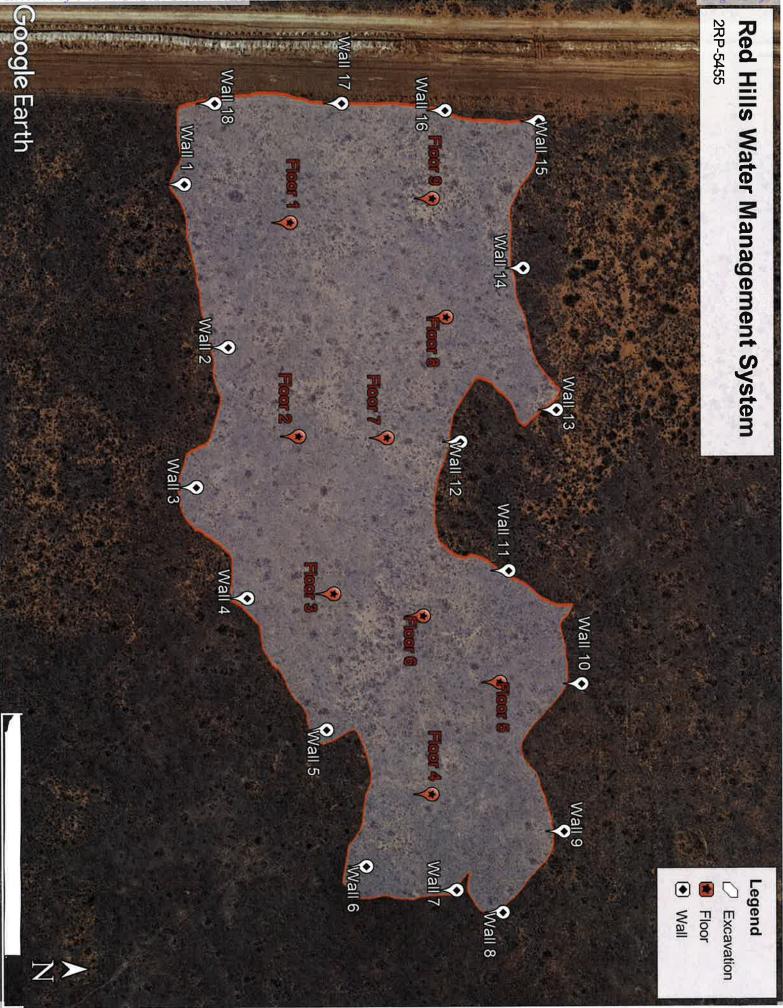
- Copy 1: Victoria Venegas New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (District 2) 1301 E. Grand Avenue Artesia, NM 88210
- Copy 2: Ryan Mann New Mexico State Land Office 2827 N Dal Paso Hobbs, NM 88240
- Copy 3: Robin Terrell Mewbourne Oil Company 4801 Business Park Blvd Hobbs, NM 88240

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# FIGURES







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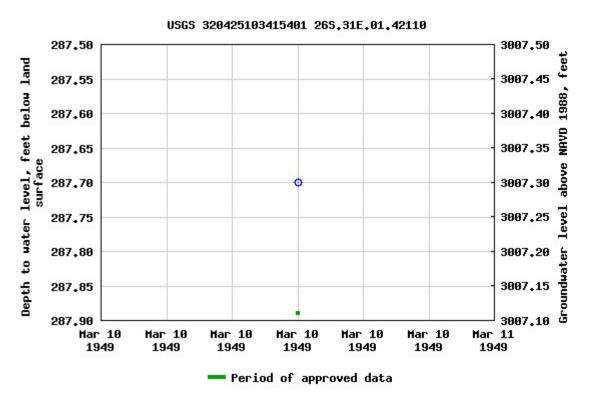
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## USGS 320425103415401 26S.31E.01.42110

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.

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## Search Results -- 1 sites found

Agency code = usgs site\_no list = • 320424103415401

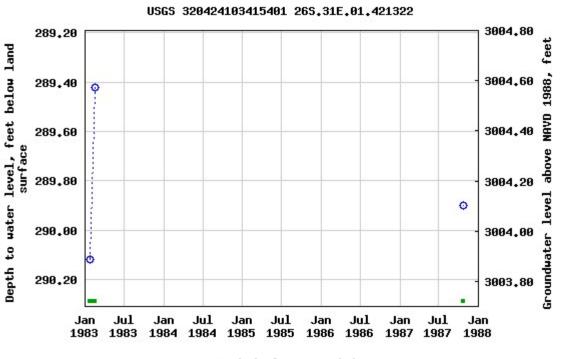
Minimum number of levels = 1

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## 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

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Tab-separated data
Graph of data
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Period of approved data

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Title: Groundwater for New Mexico: Water Levels URL: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

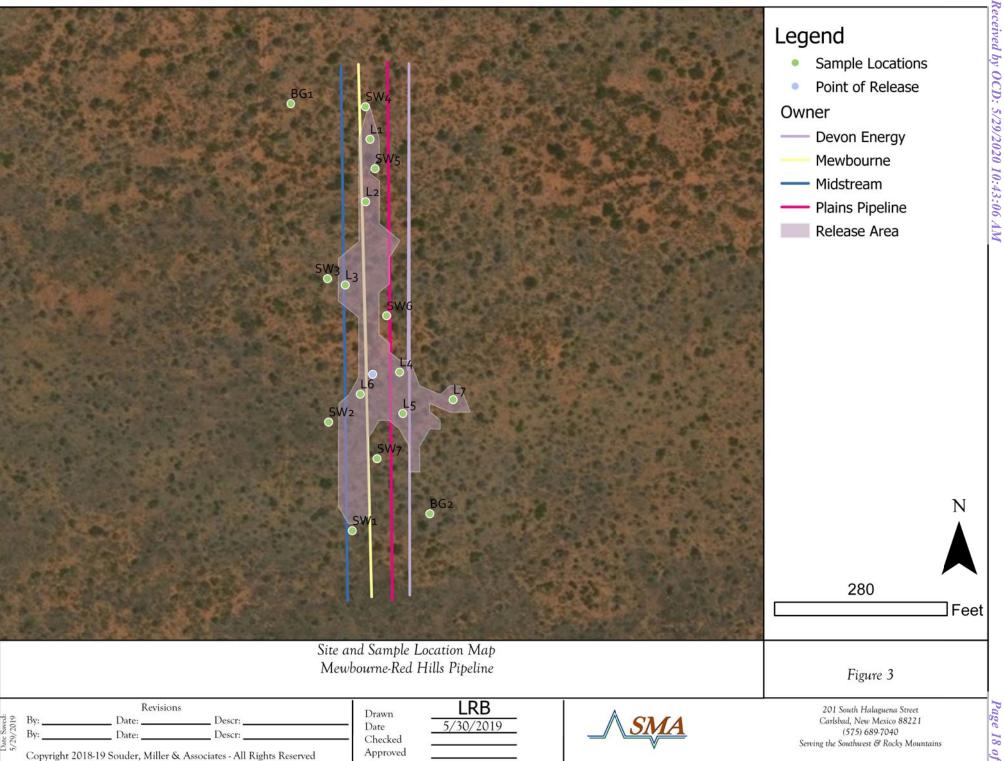
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<u>03554 POD1</u>	Code	CUB	ED		2 1 4			31E	620547	3549148	10/22/2012	10/26/2012	10/29/2012	630	300 SIRMAN, JOHN (LD)	1654
03639 POD1		CUB	ED	Shallow	3 4 2	01	26S	31E	620168	3549279	09/23/2013	09/25/2013	10/25/2013	700	365 JOHN SIRMAN	1654
04256 POD1		С	ED	Artesian	4 4 2	01	26S	31E	620384	3549257	06/28/2018	07/04/2018	07/18/2018	666	340 BRYCE WALLACE	1706
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## TABLES

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#### 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

					METHOD: E	PA SW 846-80	21B, 5030		ME	FHOD: 801	5M	TOTAL	300	
SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/Kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/Kg)	EXT DRO C <sub>28</sub> -C <sub>36</sub> (mg/Kg)	ТРН С <sub>6</sub> -С <sub>36</sub> (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
	4	0/40/0040			-0.050	10.050	-0.10	10.005	.5.0	.40	.50	-05	0.000	
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
	41	7/4/0040	In Oite	10.005	10.040	10.040	10,000	40.000	11.0	050	110	200	2,000	NA
L4 @ 4'	4'	7/1/2019 7/1/2019	In-Situ In-Situ	<0.025 <0.025	<0.049 <0.050	<0.049 <0.050	<0.099 <0.099	<0.222 <0.224	<4.9 <5.0	250 <9.6	110 <48	360 <62.6	3,200 2.400	NA NA
L6 @ 4'	4	7/1/2019	In-Silu	×0.025	<0.050	<0.050		<0.224	<5.0	<9.0	<u> </u>	<02.0	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

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#### 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

					METHOD: EI	PA SW 846-80	21B, 5030		ME	THOD: 801	5M	TOTAL	300	
SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/Kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/Kg)	EXT DRO C <sub>28</sub> -C <sub>36</sub> (mg/Kg)	TPH C <sub>6</sub> -C <sub>36</sub> (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	

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# APPENDICES

## Red Hills Water Management System – 2RP-5455 32.085965, -103.740145



Release area, facing north

6/21/19



Remediation, facing east

7/15/19



Release area, facing east

6/21/19



Remediation, facing southeast

7/25/19

## Red Hills Water Management System – 2RP-5455 32.085965, -103.740145



Liner placed, facing east

8/5/19



Remediation, facing west



Backfilled, facing southwest

8/12/19



Remediation, facing straight down

7/25/19



June 11, 2019

Jacqui Haris Souder, Miller & Associates 201 S Halagueno Carlsbad, NM 88221 TEL: FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

OrderNo.: 1906106

RE: Red Hills PL

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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Analytical Report** 

## Hall Environmental Analysis Laboratory, Inc.

Lab Order 1906106

Date Reported: 6/11/2019

CLIENT: Souder, Miller & Associates		Cl	ient Sample II	<b>D:</b> L1	-Surf				
Project: Red Hills PL		(	Collection Dat	e: 5/2	28/2019 10:05:00 AM				
Lab ID: 1906106-001	Matrix: SOIL	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					Analys	it: smb			
Chloride	ND	60	mg/Kg	20	6/7/2019 3:06:48 AM	45427			
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS				Analys	t: 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 RANG	GE				Analys	t: 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					Analys	t: 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. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 1 of 17

## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 6/11/2019

CLIENT: Souder, Miller & Associates		Cl	ient Sample II	<b>):</b> L1	-2'					
Project: Red Hills PL		(	Collection Dat	<b>e:</b> 5/2	28/2019 10:10:00 AM					
Lab ID: 1906106-002	Matrix: SOIL		<b>Received Date:</b> 6/4/2019 11:15:00 AM							
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS					Analys	t: <b>smb</b>				
Chloride	ND	60	mg/Kg	20	6/7/2019 3:19:12 AM	45427				
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analys	t: 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	E				Analys	t: 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					Analys	t: 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.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

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## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 6/11/2019

CLIENT: Souder, Miller & Associates Project: Red Hills PL Lab ID: 1906106-003	Matrix: SOII	Client Sample ID: L2-Surf           Collection Date: 5/28/2019 10:15:00 AM           Matrix: SOIL         Received Date: 6/4/2019 11:15:00 AM									
Analyses	Result	RL	Qual Units		Date Analyzed	Batch					
EPA METHOD 300.0: ANIONS					Analys	t: smb					
Chloride	ND	60	mg/Kg	20	6/7/2019 3:31:37 AM	45427					
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analys	t: 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 RANG	E				Analys	t: 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					Analys	t: 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.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

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## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 6/11/2019

CLIENT: Souder, Miller & Associates		Cl	ient Sa	ample II	<b>D:</b> L2	-2'			
Project: Red Hills PL		(	Collect	tion Dat	e: 5/2	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						Analys	t: <b>smb</b>		
Chloride	ND	60		mg/Kg	20	6/7/2019 3:44:02 AM	45427		
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS					Analys	t: 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 RAN	GE					Analys	t: 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						Analys	t: 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.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

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Project: Lab ID:

**CLIENT:** Souder, Miller & Associates

Red Hills PL

1906106-005

Analytical Report Lab Order 1906106

## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 6/11/2019

Client Sample ID: L3-Surf Collection Date: 5/28/2019 10:30:00 AM 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 OR	GANICS				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

Matrix: SOIL

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

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## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 6/11/2019

CLIENT: Souder, Miller & Associates		Cl	ient Sample II	<b>D:</b> L3	-2'				
Project: Red Hills PL		(	Collection Dat	<b>e:</b> 5/2	28/2019 10:35:00 AM				
Lab ID: 1906106-006	Matrix: SOIL		<b>Received Date:</b> 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 RANG	E				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.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

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**Analytical Report** 

## Hall Environmental Analysis Laboratory, Inc.

Lab Order 1906106

Date Reported: 6/11/2019

CLIENT: Souder, Miller & Associates	s 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					Analys	: smb			
Chloride	ND	60	mg/Kg	20	6/7/2019 4:46:05 AM	45427			
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS				Analys	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 RAN	GE				Analys	: 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					Analys	: 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. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Project: Red Hills PL

**CLIENT:** Souder, Miller & Associates

Analytical Report

## Hall Environmental Analysis Laboratory, Inc.

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

Client Sample ID: SW2 Comp Collection Date: 5/28/2019 10:55:00 AM

Lab ID: 1906106-008	Matrix: SOIL	<b>Received Date:</b> 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 RAN	GE 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 RAI	NGE					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.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

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**Analytical Report** 

## Hall Environmental Analysis Laboratory, Inc.

Lab Order 1906106

Date Reported: 6/11/2019

CLIENT: Souder, Miller & Associates Project: Red Hills PL	Client Sample ID: SW3 CompCollection Date: 5/28/2019 11:05:00 AMMatrix: SOILReceived Date: 6/4/2019 11:15:00 AM							
Lab ID: 1906106-009								
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 RANG	E				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. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 6/11/2019

CLIENT: Souder, Miller & Associates	ates Client Sample ID: SW4 Comp Collection Date: 5/28/2019 11:10:00 AM							
Project: Red Hills PL								
Lab ID: 1906106-010	Matrix: SOIL	Received Date: 6/4/2019 11:15:00 AM						
Analyses	Result	RL	<b>RL</b> Qual Units		DF Date Analyzed			
EPA METHOD 300.0: ANIONS					Analys	: smb		
Chloride	ND	59	mg/Kg	20	6/7/2019 4:16:15 PM	45437		
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analys	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 RANG	E				Analys	: 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					Analys	: 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.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

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**Project:** 

Lab ID:

Analyses

**CLIENT:** Souder, Miller & Associates Red Hills PL

1906106-011

**Analytical Report** Lab Order 1906106

## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 6/11/2019

Client Sample ID: SW5 Comp						
	Collection Date: 5/28/2019 11:15:00 AM					
Matrix: SOIL	Received Date: 6/4/2019 11:15:00 AM					
Result	RL Qual Units DF Date Analyzed	Batch				

Thatjses	Rebuit	<b>KL</b>	Quai emis	21	Dute Inalyzeu	Dutth
EPA METHOD 300.0: ANIONS					Analys	t: <b>smb</b>
Chloride	ND	60	mg/Kg	20	6/7/2019 4:28:39 PM	45437
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analys	t: 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					Analys	t: 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					Analys	t: 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. D Sample Diluted Due to Matrix
- Н 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

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Project: Lab ID:

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

1906106-012

Analytical Report

#### Hall Environmental Analysis Laboratory, Inc.

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

Client Sample ID: SW6 Comp
Collection Date: 5/28/2019 11:20:00 AM
Received Date: 6/4/2019 11:15:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch					
EPA METHOD 300.0: ANIONS					Analys	t: <b>smb</b>					
Chloride	ND	60	mg/Kg	20	6/7/2019 4:41:04 PM	45437					
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analys	t: 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					Analys	t: 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					Analys	t: 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					

Matrix: SOIL

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

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**Analytical Report** 

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1906106

Date Reported: 6/11/2019

CLIENT: Souder, Miller & Associates		Cl	ient Sample II	D: SW	7 Comp	
Project: Red Hills PL		(	Collection Dat	<b>e:</b> 5/2	8/2019 11:25:00 AM	
Lab ID: 1906106-013	Matrix: SOIL	/2019 11:15:00 AM				
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>smb</b>
Chloride	ND	60	mg/Kg	20	6/7/2019 4:53:28 PM	45437
EPA METHOD 8015M/D: DIESEL RANG	<b>BE ORGANICS</b>				Analys	t: 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 RAN	GE				Analys	t: 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					Analys	t: 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. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Client: Project:	Souder, Miller & A Red Hills PL	associates					
Sample ID: MB-4	5427 Samp	Type: MBLK	Test	Code: EPA Method	300.0: Anions		
Client ID: PBS	Bato	h ID: <b>45427</b>	R	unNo: 60469			
Prep Date: 6/6/2	2019 Analysis I	Date: 6/6/2019	S	eqNo: <b>2045558</b>	Units: mg/Kg		
Analyte Chloride	Result ND	PQL SPK value 1.5	SPK Ref Val	%REC LowLimit	HighLimit %RP	PD RPDLimit	Qual
Sample ID: LCS-	45427 Samp	Type: LCS	Test	Code: EPA Method	300.0: Anions		
Client ID: LCSS	Batc	h ID: <b>45427</b>	R	unNo: <b>60469</b>			
Prep Date: 6/6/2	2019 Analysis I	Date: 6/6/2019	S	eqNo: 2045559	Units: <b>mg/Kg</b>		
Analyte	Result	PQL SPK value	SPK Ref Val	%REC LowLimit	HighLimit %RP	D RPDLimit	Qual
Chloride	15	1.5 15.00	0	98.1 90	110		
Sample ID: MB-4	5437 Samp	Type: MBLK	Test	Code: EPA Method	300.0: Anions		
Client ID: PBS	Bato	h ID: <b>45437</b>	R	unNo: 60474			
Prep Date: 6/7/2	2019 Analysis I	Date: 6/7/2019	S	eqNo: 2047364	Units: <b>mg/Kg</b>		
Analyte	Result	PQL SPK value	SPK Ref Val	%REC LowLimit	HighLimit %RP	D RPDLimit	Qual
Chloride	ND	1.5					
Sample ID: LCS-	45437 Samp	Type: LCS	Test	Code: EPA Method	300.0: Anions		
Client ID: LCSS	Batc	h ID: <b>45437</b>	R	unNo: <b>60474</b>			
Prep Date: 6/7/2	2019 Analysis I	Date: 6/7/2019	S	eqNo: 2047365	Units: <b>mg/Kg</b>		
Analyte	Result	PQL SPK value	SPK Ref Val	%REC LowLimit	HighLimit %RP	D RPDLimit	Qual
Chloride	15	1.5 15.00	0	97.3 90	110		

**Qualifiers:** 

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

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WO#: **1906106** 

11-Jun-19

Client: Souder Project: Red Hi	, Miller & Associates lls PL	
Sample ID: <b>MB-45417</b>	SampType: <b>MBLK</b>	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) Surr: DNOP	ND 50 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
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank в
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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WO#: 1906106

11-Jun-19

Client: Souder, Project: Red Hil	Miller & Ass ls PL	sociate	S							
Sample ID: MB-45365	SampTy	pe: <b>ME</b>	BLK	Test	Code: EF	PA Method	8015D: Gaso	line Rang	e	
Client ID: PBS	Batch	ID: 45	365	R	unNo: 60	0414				
Prep Date: 6/4/2019	Analysis Da	ate: 6/	5/2019	S	eqNo: 20	043621	Units: mg/K	g		
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	SampTy	pe: <b>LC</b>	S	Test	Code: EF	PA Method	8015D: Gaso	line Range	e	
Client ID: LCSS	Batch	ID: 45	365	R	unNo: 60	0414				
Prep Date: 6/4/2019	Analysis Da	ate: 6/	5/2019	S	eqNo: 20	043623	Units: mg/K	g		
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

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

	ouder, Miller & A ed Hills PL	Associate	es							
Sample ID: MB-45365	Samp	Type: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: PBS	Bato	h ID: 45	365	F	RunNo: 6	0414				
Prep Date: 6/4/2019	Analysis I	Date: 6/	5/2019	S	SeqNo: 2	043665	Units: mg/k	٤g		
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-Bromofluorobenze	ne 0.99		1.000		98.7	80	120			
Sample ID: LCS-4536	5 Samp	Туре: <b>LC</b>	s	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: LCSS	Bato	ch ID: 45	365	F	RunNo: 6	0414				
Prep Date: 6/4/2019	Analysis I	Date: 6/	5/2019	S	SeqNo: 2	043666	Units: mg/k	٤g		
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-Bromofluorobenze	ne 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

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WO#: **1906106** 

11-Jun-19

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HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Alba TEL: 505-345-3975 Website: www.ha	490 uquerq FAX:	01 Hawkins nue, NM 871 505-345-41	NE 109 107	Sar	nple Log-In Che		43 oj
Client Name: SMA-CARLSBAD	Work Order Number:	1906	6106			RcptNo: 1		
Received By: Jevon Campisi 6/	4/2019 11:15:00 AM			Java ( I	ampiai			
Completed By: Isaiah Ortiz 6/	4/2019 1:37:26 PM			1	-0	2~		
Reviewed By: DAD 61419								
Chain of Custody								
1. Is Chain of Custody complete?		Yes	$\checkmark$	No		Not Present		
2. How was the sample delivered?		Cour	rier					
Log In								
3. Was an attempt made to cool the samples?		Yes	$\checkmark$	No		NA 🗌		
4. Were all samples received at a temperature of >	•0° C to 6.0°C	Yes	$\checkmark$	No				
5. Sample(s) in proper container(s)?		Yes	$\checkmark$	No				
6. Sufficient sample volume for indicated test(s)?		Yes	$\checkmark$	No				
7. Are samples (except VOA and ONG) properly pro	eserved?	Yes	$\checkmark$	No				
8. Was preservative added to bottles?		Yes		No	$\checkmark$	NA 🗌		
9. VOA vials have zero headspace?		Yes		No		No VOA Vials 🗹		
10. Were any sample containers received broken?		Yes		No	$\checkmark$			-
						# of preserved bottles checked		Th
11. Does paperwork match bottle labels?		Yes		No		for pH:		n ,
(Note discrepancies on chain of custody) 12. Are matrices correctly identified on Chain of Cust	odv2	Yes	$\checkmark$	No		Adjusted?	unless noted) 6	50
13. Is it clear what analyses were requested?	ouy			No	_			
14. Were all holding times able to be met?		Yes		No	_	Checked by:		
(If no, notify customer for authorization.)		100				<i>(</i>		
<u>Special Handling (if applicable)</u>								
15. Was client notified of all discrepancies with this	order?	Yes		No		NA 🗹		
Person Notified:	Date:				erenner.			
By Whom:	Via:	eMa	ail 🗌 Pho	one 🗌	Fax	In Person		
Regarding:								
Client Instructions:								
16. Additional remarks:								
17. Cooler Information								
and provide the second s	ntact Seal No S	eal Da	and the second	igned		T		

Received by OCD: 5/29/20	20	10:4	43:06 A	M																1	Page 44	of 96
	Analysis Request		<del>3.,⊧04.</del>	/) NO <sup>54</sup>	10 0 sls .eC	r 8331 t9M r, W r, AG (AC	EDB (M PAHs b) RCRA 8 8270 (V 8220 (V 8270 (S 70tal Co											6		Wrect Bill .	Newbournex	Any sub-contracted data will be clearly notated on the analytical report.
01 H			PCB's	2808	/səp	bioite	99 1808					1				14	đ			<i>.f,</i> )		Any su
4901 Tel.		C	RANACE	DQ	285	)as	108(HJ)	$\times$	_						in a	d free	S.	74. 		Remarks		bility.
		(L	<u>508) e'</u> {	-TME		ath	RTEN/	X			20 10		_	_	_				_	Ren		s possi
Time: Trush 5-000 HIIS PL		er:	ui Harris		Z Yes D No	cluding CF): 1.9° + 0.3 CF= 2.2%	Preservative	-00-	200-	-003	-004	-005	-006	-68-	-008	600-	-6010	P0 2011	500 2012	$\int \frac{1}{b} $	Via: Counter Date Time	redited laboratories. This serves as notice of this
Turn-Around T Standard Project Name: Project #:		Project Manag	Jocq	Sampler:	Un Ice: [	Cooler Temp(including CF):	Container F													Received by:	Received by:	ontracted to other acc
Client: SMA Carlsbad Mailing Address: & Direct Bill	Phone #:	email or Fax#:	QA/QC Package:	creditation:			Date Time Matrix Sample Name	2	10:10 11-2'	10:15 1 L2 - Surf	10:20 122-21	10:30 L3-Surf	10:35 13-3'	10:45 5W1 Comp	10:55 SW2 Camis	11:05 SW3 Com	11:10 Sw4 Comp	11:15 5W5 COMD	(11:30 SW6 Comb	Date: Time: Relinquished by: 5/349 9:39 JUM JUM DUOLUU	Date: Time: Relinquished by:	If necessary, samples submitted to Hall Environmental may be subdontracted to other accredited laboratories. This serves as notice of this possibility.

Additional and the second seco	2B (Method 504.1) AHs by 8310 or 8270SIMS CRA 8 Metals DF, Br, HO <sub>3</sub> , HO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> (AOA) 270 (Semi-VOA) 270 (Semi-VOA) 271 (Semi-VOA) 270 (Semi-VOA)		A Direct Bill Multiple clearly notated on the analytical report.
4901 Tel. 5	1EX) <del>МТВЕ / ТМВ's (8021</del> ) 181 Резгісіdes/8082 РСВ's		Remarks:
Turn-Around Time: □ Standard	Project Manager: TOCOUL HOLLIS Sampler: LZB Sampler: LZB On Ice: EVes D No # of Coolers: 1.9° + 0.3℃ > 22° Cooler Temp(induding CF): 1.9° + 0.3℃ > 22° Container Preservative HEAL No.		Time:       Relinquished by:       Received by       Time       Date       Time       Remarks:       Monthly       Direct       Bit         7.33       Monthly       Monthly       Monthly       Monthly       Monthly       Monthly       Bate       Time         7.34       Monthly       Monthly       Monthly       Monthly       Monthly       Bate       Time         7.37       Monthly       Monthly       Monthly       Monthly       Monthly       Monthly         7.37       Monthly       Monthly       Monthly       Monthly       Monthly       Monthly         7.30       Monthly       Monthly       Monthly       Monthly       Monthly       Monthly         7.31       Monthly       Monthly       Monthly       Monthly       Monthl
Client: SNA Custody Record Client: SNA Curshad Mailing Address: X Direct Bull Neubourne #:	Type)	AII:25501	Date:     Time:     Relinquished by:       Pate:     Time:     Relinquished by:       Pate:     Time:     Relinquished by:       Date:     Time:     Relinquished by:       If necessary, samples submitted to Hall Environmental may be sub-

Hall Environmental Analysis	Laboratory,	Inc.			Date Reported:			
CLIENT: Souder, Miller & Associates		Client Sample ID: L5-4						
Project: Red Hills PL		(	<b>Collection Dat</b>	<b>e:</b> 6/1	2/2019 9:05:00 AM			
Lab ID: 1906780-001	Matrix: SOIL		<b>Received Dat</b>	<b>e:</b> 6/1	4/2019 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 RANG	E				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. D Sample Diluted Due to Matrix
- Н 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

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 1 of 0

Hall Environmental Analysi	is Laboratory,	Inc.				Date Reported:	
CLIENT: Souder, Miller & Associates		Cl	ient Sa	ample I	<b>D:</b> 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					4/2019 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 RANG	<b>BE ORGANICS</b>					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 RAN	GE					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. D Sample Diluted Due to Matrix
- Н 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

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Date Reported:

					Date Reported.				
CLIENT: Souder, Miller & Associates		Cli	ent Sample II	<b>D:</b> L7	-3				
Project: Red Hills PL		Collection Date: 6/12/2019 10:00:00 AM           Matrix: SOIL         Received Date: 6/14/2019 9:00:00 AM							
Lab ID: 1906780-003	Matrix: SOIL								
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 RANG	GE 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 RAN	IGE				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.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

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Analytical Report

Hall Environmental Analysis	s Laboratory, Inc.
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Lab Order 1906780

Date Reported:

	,				Date Reported.			
CLIENT: Souder, Miller & Associates		Cl	ient Sample II	<b>):</b> 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	esult RL Qual Units			DF Date Analyzed			
EPA METHOD 300.0: ANIONS					Analyst	: smb		
Chloride	6300	300	mg/Kg	10	0 6/21/2019	45691		
EPA METHOD 8015M/D: DIESEL RANG	E 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 RANG	GE				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.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

Page 4 of 0

Hall Environmental Analysis	Laboratory,	Inc.			Date Reported:	
CLIENT: Souder, Miller & Associates Project: Red Hills PL Lab ID: 1906780-005	Matrix: SOIL			<b>e:</b> 6/1	-22.5 2/2019 11:00:00 AM 4/2019 9:00:00 AM	
Analyses	Result	RL	Qual Units	Qual Units DF Date Analyzed		
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	E				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. D Sample Diluted Due to Matrix
- Н 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

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Date Reported:

## Hall Environmental Analysis Laboratory, Inc.

	, , , , , , , , , , , , , , , , , , ,					Date Reported.			
CLIENT: Souder, Miller & Associates		C	lient Sa	ample II	D: SV	V8 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 A								
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 RANG	GE 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 RAN	GE					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.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

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Date Reported:

### Hall Environmental Analysis Laboratory, Inc.

<i></i>						Date Reported.		
CLIENT: Souder, Miller & Associates		C	lient S	ample I	D: SV	V9 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 RANG	GE 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 RAN	IGE					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.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

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Date Reported:

## Hall Environmental Analysis Laboratory, Inc.

						Date Reported.		
CLIENT: Souder, Miller & Associates		Cl	lient Sa	ample I	D: SV	V10 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 RANG	GE 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 RAN	GE					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.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

Page 8 of 0



July 12, 2019

Heather Patterson Souder, Miller & Associates 201 S Halagueno Carlsbad, NM 88221 TEL: FAX: Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1907180

Date Reported: 7/12/2019

CLIENT: Souder, Miller & Associates			ient Sample II						
Project: Red Hills Pipeline	<b>Collection Date:</b> 7/1/2019 2:18:00 PM								
Lab ID: 1907180-001	Matrix: SOIL		Received Date	<b>e:</b> 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.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

Page 1 of 6

**Analytical Report** 

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1907180

Date Reported: 7/12/2019

CLIENT: Souder, Miller & Associates Project: Red Hills Pipeline			ient Sample II Collection Date		5-4' 1/2019 2:22:00 PM	
Lab ID: 1907180-002	Matrix: SOIL		Received Date	e: 7/3	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. D Sample Diluted Due to Matrix
- Н 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

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 2 of 6

Client: Project:		er, Miller & As Hills Pipeline	sociate	es							
Sample ID: N	/IB-46094	SampT	ype: ME	BLK	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID: F	PBS	Batch	ID: 46	094	F	RunNo: 61	307				
Prep Date:	7/10/2019	Analysis Da	ate: 7/	10/2019	S	SeqNo: 20	078230	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID: L	CS-46094	SampT	ype: LC	S	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID: L	CSS	Batch	ID: 46	094	F	RunNo: 61	307				
Prep Date:	7/10/2019	Analysis Da	ate: 7/	10/2019	5	SeqNo: 20	078231	Units: mg/K	g		
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.
- 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

1907180

12-Jul-19

WO#:

	er, Miller & As Hills Pipeline	ssociate	S								
Sample ID: LCS-46044	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics		
Client ID: LCSS Batch ID: 46044				R	RunNo: 61237						
Prep Date: 7/8/2019	Analysis D	ate: 7/	9/2019	S	eqNo: 20	076913	Units: mg/k	g			
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	SampT	ype: ME	BLK	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics		
Client ID: PBS	Batch	n ID: 460	044	R	unNo: 6	1237					
Prep Date: 7/8/2019	Analysis D	ate: 7/	9/2019	S	eqNo: 20	076914	Units: mg/k	g			
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

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

,	Miller & As ls Pipeline	ssociate	Ś							
Sample ID: MB-46028	SampT	ype: ME	BLK	Tes	tCode: EF	PA Method	8015D: Gaso	line Rang	e	
Client ID: PBS	Batch	n ID: 460	028	F	RunNo: 61	1186				
Prep Date: 7/5/2019	Analysis D	ate: 7/	6/2019	S	SeqNo: 20	073909	Units: mg/K	g		
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	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8015D: Gaso	line Rang	e	
Client ID: LCSS	Batch	n ID: 46	028	F	RunNo: 61	1186				
Prep Date: 7/5/2019	Analysis D	ate: 7/	6/2019	S	SeqNo: 20	073910	Units: mg/K	g		
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

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1907180

12-Jul-19

WO#:

Client: Project:	Souder, Miller & A Red Hills Pipeline		es							
Sample ID: MB-460	28 Samp	Type: ME	BLK	Tes	tCode: EF	PA Method	8021B: Volat	iles		
Client ID: PBS	Bate	ch ID: 46	028	F	RunNo: 6	1186				
Prep Date: 7/5/20	19 Analysis	Date: 7/	6/2019	S	SeqNo: 20	073938	Units: mg/K	íg		
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-Bromofluorober	zene 0.95		1.000		95.3	80	120			
Sample ID: LCS-46	028 Samp	Type: LC	s	Tes	tCode: EF	PA Method	8021B: Volat	iles		
Client ID: LCSS	Bate	ch ID: 46	028	F	RunNo: 6	1186				
Prep Date: 7/5/20	19 Analysis	Date: 7/	6/2019	S	SeqNo: 20	073939	Units: mg/K	íg		
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-Bromofluorober	izene 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

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY	TEL: 505-345-3	ntal Analysis Labor 4901 Hawkii Albuquerque, NM & 975 FAX: 505-345 v.hallenvironmenta	ns NE 87109 <b>San</b> -4107	nple Log-In Cl	heck List
Client Name: SMA-CARLSBAD	Work Order Num	ber: 1907180		RcptNo:	1
Received By: Leah Baca	7/3/2019 8:55:00 A	М	Into Bac	<u>(</u>	
Completed By: Michelle Garcia	7/3/2019 1:38:26 P	М	Lal Bac		
Reviewed By: YG 7311			<u> </u>	uuus	
<u>Chain of Custody</u>					
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 sam	nples?	Yes 🖌	No 🗌		
4. Were all samples received at a tempe	rature of >0° C to 6.0°C	Yes 🔽	No 🗌		
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) p	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 🗹	# of preserved bottles checked	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custor	iy)	Yes 🗹	No 🗌	for pH:	12 unless noted)
12. Are matrices correctly identified on Ch	ain of Custody?	Yes 🔽	No 🗌	Adjusted?	
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 🗌	Checked by: D	AD 7/3/19
Special Handling (if applicable)					
15. Was client notified of all discrepancies	s with this order?	Yes	No 🗌	NA 🗹	
Person Notified:	Date:	<u> </u>			
By Whom:	Via:	,	hone 🗌 Fax	In Person	
Regarding:					
Client Instructions:					
16. Additional remarks:					
17. Cooler Information					
Cooler No Temp °C Condition		Seal Date	Signed By		
1 2.6 Good 2 3.9 Good	Yes				

Yes

Hall ENVIRONMENTAL ANALYSIS LABORATORY ANALYSIS LABORATORY www.hallenvironmental.com www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107 Analysis Request	8081 Pesticides/8082 PCB's EDB (Method 504.1) PAHs by 8310 or 8270SIMS RCRA 8 Metals (J) F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> 8260 (VOA) 8270 (Semi-VOA) Total Coliform (Present/Absent)		Any sub-contracted data will be clearly notated on the analytical report.
1901	ВТЕХ) МТВЕ / ТМВ's (8021) ТРН:8015D(GRO / DRO / МRO)		Remarks: Mlu
Turn-Around Time: Standard <u>Krush 5 dew turn</u> Project Name: Red Hills Pipeline Project #:	Project Manager: Heather Patterson Sampler: LA /JTT Sampler: LA /JTT On loe: I Yes INO Mole: 2 St 55 - 34 Cooler Temp(metuding CF): 2, 65 - 34 Cooler Temp(metuding CF): 2, 65 - 34 Container Preservative AD1 80 Type and # Type		Time:       Refinduished by:       Received by:       Via:       Date       Time       Remarks:       M       <
Client:       SMA       CARLSBAD         Mailing Address:       Bill       Color         Phone #:       Bill       Color	email or Fax#: QA/QC Package: Cation: Cate of (Full Validation) Accreditation: Az Compliance Accreditation: Az Compliance Cate Cate Cate of Cate	14: Kg	Date:     Time:     Relinquished by:       Date:     Time:     Relinquished by:       Date:     Time:     Relinquished by:       If necessary, samples/subnitted to Hall Environmental may be subc

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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: Wall-1Collection Date: 7/26/2019 8:22:00 AMMatrix: SOILReceived Date: 7/30/2019 8:43:00 AM							
Result	RL	Qual Units	DF	Date Analyzed	Batch		
				Analys	t: MRA		
ND	7.5	mg/Kg	5	8/2/2019 11:06:40 PM	46573		
ND	1.5	mg/Kg	5	8/2/2019 11:06:40 PM	46573		
GE ORGANICS				Analys	t: TOM		
ND	10	mg/Kg	1	8/1/2019 11:00:03 PM	46514		
ND	51	mg/Kg	1	8/1/2019 11:00:03 PM	46514		
81.8	70-130	%Rec	1	8/1/2019 11:00:03 PM	46514		
IGE				Analys	t: RAA		
ND	4.9	mg/Kg	1	8/1/2019 6:54:03 PM	46496		
104	73.8-119	%Rec	1	8/1/2019 6:54:03 PM	46496		
ORT LIST				Analys	t: JMR		
ND	0.025	mg/Kg	1	8/2/2019 7:38:54 PM	46496		
ND	0.049	mg/Kg	1	8/2/2019 7:38:54 PM	46496		
ND	0.049	mg/Kg	1	8/2/2019 7:38:54 PM	46496		
ND	0.099	mg/Kg	1	8/2/2019 7:38:54 PM	46496		
97.1	70-130	%Rec	1	8/2/2019 7:38:54 PM	46496		
101	70-130	%Rec	1	8/2/2019 7:38:54 PM	46496		
99.1	70-130	%Rec	1	8/2/2019 7:38:54 PM	46496		
99.6	70-130	%Rec	1	8/2/2019 7:38:54 PM	46496		
	Result ND ND SE ORGANICS ND 81.8 NGE ND 104 ORT LIST ND ND ND 97.1 101 99.1	Matrix:         SOIL           Result         RL           ND         7.5           ND         7.5           ND         1.5           GE ORGANICS         ND           ND         10           ND         51           81.8         70-130           ND         4.9           104         73.8-119           ORT LIST         ND           ND         0.025           ND         0.049           ND         0.039           97.1         70-130           101         70-130           99.1         70-130	ND         7.5         mg/Kg           ND         7.5         mg/Kg           ND         1.5         mg/Kg           GE ORGANICS         ND         10         mg/Kg           ND         51         mg/Kg           ND         0.025         mg/Kg           ND         0.025         mg/Kg           ND         0.049         mg/Kg           ND         0.049         mg/Kg           ND         0.099         mg/Kg	ND         7.5         mg/Kg         5           ND         7.5         mg/Kg         5           ND         1.5         mg/Kg         5           GE ORGANICS         ND         10         mg/Kg         1           ND         51         mg/Kg         1         1           ND         4.9         mg/Kg         1         1           ND         4.9         mg/Kg         1         1           ND         0.025         mg/Kg         1           ND         0.049         mg/Kg         1           ND         0.049         mg/Kg         1           ND         0.099         mg/Kg         1           ND         0.099         mg/Kg         1           ND         0.099         mg/Kg         1         1         1	Collection Date:         7/26/2019         8:22:00 AM           Matrix:         SOIL         Received Date:         7/30/2019         8:43:00 AM           Result         RL         Qual         Units         DF         Date Analyzed           ND         7.5         mg/Kg         5         8/2/2019         11:06:40 PM           ND         7.5         mg/Kg         5         8/2/2019         11:06:40 PM           ND         1.5         mg/Kg         5         8/2/2019         11:06:40 PM           GE ORGANICS         Analysi         Analysi         Analysi         Analysi           ND         10         mg/Kg         1         8/1/2019         11:00:03 PM           ND         51         mg/Kg         1         8/1/2019         11:00:03 PM           ND         51         mg/Kg         1         8/1/2019         11:00:03 PM           ND         4.9         mg/Kg         1         8/1/2019         11:00:03 PM           ND         4.9         mg/Kg         1         8/1/2019         6:54:03 PM           ND         0.025         mg/Kg         1         8/1/2019         6:54:03 PM           ND         0.025         mg		

Qualifiers:	* D H	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded		Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	D 1 60
	PQL	Practical Quanitative Limit	RL	Reporting Limit	Page 1 of 0
	S	% Recovery outside of range due to dilution or matrix			

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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

<b>CLIENT:</b> Mewbourne Oil Company		Cli	ent Sample II	<b>):</b> W	all-2	
Project: RHWMS		0	Collection Date	e: 7/2	26/2019 8:24:00 AM	
Lab ID: 1907F03-002	Matrix: SOIL		Received Date	e: 7/	30/2019 8:43:00 AM	
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: 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 RANG	E ORGANICS				Analys	t: 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 RANG	GE				Analys	t: 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 SHO	RT LIST				Analys	t: 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

Qualifiers:	* D H	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded ELINNIN	$\mathbf{A}^{\mathbf{B}}$	Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	D 0 00
	PQL	Practical Quanitative Limit	RL	Reporting Limit	Page 2 of 0
	S	% Recovery outside of range due to dilution or matrix			

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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

				1	
		-			
Motnize SOII					
Matrix, SOIL		Received Dat	<b>e.</b> //.	30/2019 8.43.00 Alvi	
Result	RL	Qual Units	DF	Date Analyzed	Batch
				Analys	t: MRA
34	7.5	mg/Kg	5	8/3/2019 12:21:08 AM	46573
ND	1.5	mg/Kg	5	8/3/2019 12:21:08 AM	46573
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					t: TOM
ND	9.7	mg/Kg	1	8/2/2019 1:03:45 AM	46514
ND	49	mg/Kg	1	8/2/2019 1:03:45 AM	46514
72.7	70-130	%Rec	1	8/2/2019 1:03:45 AM	46514
IGE				Analys	t: RAA
ND	5.0	mg/Kg	1	8/1/2019 7:39:42 PM	46496
109	73.8-119	%Rec	1	8/1/2019 7:39:42 PM	46496
ORT LIST				Analys	t: JMR
ND	0.025	mg/Kg	1	8/2/2019 8:36:23 PM	46496
ND	0.050	mg/Kg	1	8/2/2019 8:36:23 PM	46496
ND	0.050	mg/Kg	1	8/2/2019 8:36:23 PM	46496
ND	0.099	mg/Kg	1	8/2/2019 8:36:23 PM	46496
98.2	70-130	%Rec	1	8/2/2019 8:36:23 PM	46496
97.6	70-130	%Rec	1	8/2/2019 8:36:23 PM	46496
99.0	70-130	%Rec	1	8/2/2019 8:36:23 PM	46496
96.3	70-130	%Rec	1	8/2/2019 8:36:23 PM	46496
	Matrix: SOIL Result 34 ND 35E ORGANICS ND 72.7 IGE ND 109 ORT LIST ND ND ND ND ND ND ND ND ND ND ND ND ND	Cli C Matrix: SOIL Result RL 34 7.5 ND 1.5 SE ORGANICS ND 9.7 ND 49 72.7 70-130 ND 49 72.7 70-130 ND 5.0 109 73.8-119 ORT LIST ND 0.025 ND 0.050 ND 0.050 ND 0.050 ND 0.059 98.2 70-130 97.6 70-130 99.0 70-130	Client Sample II Collection Data Matrix: SOIL           Result         Received Data           34         7.5         mg/Kg           ND         1.5         mg/Kg           SE ORGANICS         MD         9.7         mg/Kg           ND         9.7         mg/Kg           ND         49         mg/Kg           72.7         70-130         %Rec           IGE         ND         5.0         mg/Kg           O         73.8-119         %Rec           ND         0.025         mg/Kg           ND         0.050         mg/Kg           ND         0.050	Client Sample ID: W           Collection Date:         7/2           Matrix:         SOIL         Received Date:         7/2           Result         RL         Qual         Units         DF           34         7.5         mg/Kg         5           ND         1.5         mg/Kg         5           GE ORGANICS         ND         9.7         mg/Kg         1           ND         9.7         mg/Kg         1           72.7         70-130         %Rec         1           IGE         ND         5.0         mg/Kg         1           109         73.8-119         %Rec         1           ORT LIST         ND         0.025         mg/Kg         1           ND         0.025         mg/Kg         1         1           ND         0.050         mg/Kg         1         1           ND         0.050         mg/Kg         1         1           ND         0.025         mg/Kg         1         1           ND         0.050         mg/Kg         1         1           ND         0.050         mg/Kg         1         1	Client Sample ID: Wall-3           Collection Date: 7/26/2019 8:26:00 AM           Matrix: SOIL         Received Date: 7/30/2019 8:43:00 AM           Result         RL         Qual         Units         DF         Date Analyzed           Analys:         34         7.5         mg/Kg         5         8/3/2019 12:21:08 AM           ND         1.5         mg/Kg         5         8/3/2019 12:21:08 AM           SE ORGANICS           ND         9.7         mg/Kg         1         8/2/2019 1:03:45 AM           OE         9.7         mg/Kg         1         8/2/2019 1:03:45 AM           OB         5.0         mg/Kg         1         8/2/2019 1:03:45 AM           OB         5.0         mg/Kg         1         8/2/2019 1:03:45 AM           MD         49         mg/Kg         1         8/2/2019 8:36:23 PM           ND         5.0         mg/Kg         1         8/2/2019 8:36:23 PM

Qualifiers:	* H ND PQL S	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded ELLINII Not Detected at the Reporting Limit Practical Quanitative Limit % Recovery outside of range due to dilution or matrix	NA <sup>B</sup> P RL	Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 3 of 0
	s	% Recovery outside of range due to dilution or matrix			

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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company		Cli	ient Sa	mple II	D: Wa	all-4	
Project: RHWMS		(	Collect	ion Dat	<b>e:</b> 7/2	26/2019 8:28:00 AM	
Lab ID: 1907F03-004	Matrix: SOIL		Receiv	ved Dat	<b>e:</b> 7/3	30/2019 8:43:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analys	t: 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					Analys	t: 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	E					Analys	t: 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 SHOR	T LIST					Analys	t: 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

Qualifiers:	* H ND PQL S	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded Not Detected at the Reporting Limit Practical Quanitative Limit % Recovery outside of range due to dilution or matrix	INA <sup>B</sup> P RL	F	Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 4 of 0
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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

J						Dute Reported.		
CLIENT: Mewbourne Oil Company Project: RHWMS Lab ID: 1907F03-005	Client Sample ID: Wall-5           Collection Date: 7/26/2019 8:42:00 AM           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						Analys	st: 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 RANG	GE ORGANICS					Analys	st: 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 RAN	IGE					Analys	st: 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 SH	ORT LIST					Analys	st: <b>JMR</b>	
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	

Qualifiers:	* H ND PQL S	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded Not Detected at the Reporting Limit Practical Quanitative Limit % Recovery outside of range due to dilution or matrix	P RL	Analyte detected in the associated Method Blank Value above quantitation range analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 5 of 0
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Analytical Report Lab Order 1907F03

Date Reported:

### Hall Environmental Analysis Laboratory, Inc.

				Date Reported.		
CLIENT: Mewbourne Oil Company			ient Sample I		/all-6 26/2019 8:43:00 AM	
Project: RHWMS	Matrix: SOIL	,				
Lab ID: 1907F03-006	Received Dat	e: 7/	30/2019 8:43:00 AM			
Analyses	Result	RL	Qual Units	DF	<b>Date Analyzed</b>	Batch
EPA METHOD 300.0: ANIONS					Analys	t: 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 RAN	GE ORGANICS				Analys	t: 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 RAM	NGE				Analys	t: 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 SH	ORT LIST				Analys	t: 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

Qualifiers:	* H ND PQL S	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded EELLI Not Detected at the Reporting Limit Practical Quanitative Limit % Recovery outside of range due to dilution or matrix	MINA <sup>B</sup> P RL	Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 6 of 0
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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

<b>CLIENT:</b> Mewbourne Oil Company		Cl	ient Sa	mple II	<b>D:</b> W	all-7	
Project: RHWMS		(	Collect	ion Dat	<b>e:</b> 7/2	26/2019 8:44:00 AM	
Lab ID: 1907F03-007	Matrix: SOIL		Receiv	ved Dat	<b>e:</b> 7/3	80/2019 8:43:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analys	t: 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 RANG	E ORGANICS					Analys	t: 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 RAN	GE					Analys	t: 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 SHO	ORT LIST					Analys	t: 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

Qualifiers:	* D H	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded		Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	D 7 60
	PQL	Practical Quanitative Limit	RL	Reporting Limit	Page 7 of 0
	S	% Recovery outside of range due to dilution or matrix			

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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

<b>CLIENT:</b> Mewbourne Oil Company		Cli	ient Sa	mple II	D: W	all-8	
Project: RHWMS		(	Collect	ion Dat	e: 7/2	26/2019 8:46:00 AM	
Lab ID: 1907F03-008	Matrix: SOIL	30/2019 8:43:00 AM					
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analys	t: 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						Analys	t: 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 RANG	E					Analys	t: 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 SHOP						Analys	t: 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

Qualifiers:	* H ND PQL S	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded Not Detected at the Reporting Limit Practical Quanitative Limit % Recovery outside of range due to dilution or matrix	P RL	Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 8 of 0
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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: Wall-9           Collection Date: 7/26/2019 9:06:00 AM           Matrix: SOIL         Received Date: 7/30/2019 8:43:00 AM					
Result	RL	Qual Units	DF	Date Analyzed	Batch
				Analys	st: CAS
ND	7.5	mg/Kg	5	8/3/2019 1:39:47 AM	46575
ND	1.5	mg/Kg	5	8/3/2019 1:39:47 AM	46575
E RANGE				Analys	st: DJF
ND	5.0	mg/Kg	1	8/2/2019 5:44:53 AM	46508
91.1	70-130	%Rec	1	8/2/2019 5:44:53 AM	46508
GE ORGANICS				Analys	st: TOM
ND	9.8	mg/Kg	1	8/1/2019 9:25:35 AM	46517
ND	49	mg/Kg	1	8/1/2019 9:25:35 AM	46517
86.2	70-130	%Rec	1	8/1/2019 9:25:35 AM	46517
ORT LIST				Analys	st: DJF
ND	0.025	mg/Kg	1	8/1/2019 4:01:21 PM	46508
ND	0.050	mg/Kg	1	8/1/2019 4:01:21 PM	46508
ND	0.050	mg/Kg	1	8/1/2019 4:01:21 PM	46508
ND	0.099	mg/Kg	1	8/1/2019 4:01:21 PM	46508
85.1	70-130	%Rec	1	8/1/2019 4:01:21 PM	46508
93.7	70-130	%Rec	1	8/1/2019 4:01:21 PM	46508
86.4	70-130	%Rec	1	8/1/2019 4:01:21 PM	46508
81.4	70-130	%Rec	1	8/1/2019 4:01:21 PM	46508
	Result ND ND E RANGE ND 91.1 GE ORGANICS ND 86.2 ORT LIST ND ND ND ND ND 85.1 93.7 86.4	Matrix: SOIL         Result         RL           ND         7.5         ND         1.5           E RANGE         ND         5.0         91.1         70-130           GE ORGANICS         ND         9.8         ND         49           86.2         70-130         98         ND         49           0RT LIST         ND         0.025         ND         0.050           ND         0.050         ND         0.050         ND         0.050           ND         0.051         ND         0.050         ND         0.050           ND         0.053         ND         0.050         ND         0.050           ND         0.053         ND         0.050         ND         0.050           ND         0.039         85.1         70-130         93.7         70-130           86.4         70-130         86.4         70-130         86.4         70-130	ND         7.5         mg/Kg           ND         7.5         mg/Kg           ND         1.5         mg/Kg           Pl.1         70-130         %Rec           GE ORGANICS         ND         9.8         mg/Kg           ND         49         mg/Kg           ND         49         mg/Kg           ND         9.8         mg/Kg           ND         0.025         mg/Kg           ND         0.025         mg/Kg           ND         0.050         mg/Kg           ND         0.099         mg/Kg	ND         7.5         mg/Kg         5           ND         7.5         mg/Kg         5           ND         1.5         mg/Kg         5           ND         5.0         mg/Kg         1           Plant         700         5.0         mg/Kg         1           Search         ND         5.0         mg/Kg         1           Bear         ND         5.0         mg/Kg         1           Search         ND         5.0         mg/Kg         1           Bear         ND         9.8         mg/Kg         1           Bear         70-130         %Rec         1           ND         0.025         mg/Kg         1           ND         0.050         mg/Kg         1           ND         0.099         mg/Kg         1           ND         0.099         mg/Kg         1           ND         0.099	Collection Date:         7/26/2019         9:06:00         AM           Matrix:         SOIL         Received Date:         7/30/2019         8:43:00         AM           Result         RL         Qual         Units         DF         Date Analyzed           ND         7.5         mg/Kg         5         8/3/2019         1:39:47         AM           ND         7.5         mg/Kg         5         8/3/2019         1:39:47         AM           ND         1.5         mg/Kg         5         8/3/2019         1:39:47         AM           E RANGE         Analys         MD         1.5         mg/Kg         1         8/2/2019         5:44:53         AM           91.1         70-130         %Rec         1         8/2/2019         5:44:53         AM           GE ORGANICS         Analys         Analys         Analys         Analys           ND         9.8         mg/Kg         1         8/1/2019         9:25:35         AM           MD         9.8         mg/Kg         1         8/1/2019         9:25:35         AM           MD         0.025         mg/Kg         1         8/1/2019         4:01:21         PM <tr< td=""></tr<>

Qualifiers:	* D H ND PQL S	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded ELLI Not Detected at the Reporting Limit Practical Quanitative Limit % Recovery outside of range due to dilution or matrix	MINA <sup>B</sup> P RL	Analyte detected in the associated Method Blank Value above quantitation range analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 9 of 0
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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

	Client Sample ID: Wall-10						
<b>Collection Date:</b> 7/26/2019 9:08:00 AM							
Matrix: SOIL	Received Date: 7/30/2019 8:43:00 AM						
Result	RL	Qual Units	DF	Date Analyzed	Batch		
				Analys	t: CAS		
210	7.5	mg/Kg	5	8/3/2019 2:04:37 AM	46575		
1.7	1.5	mg/Kg	5	8/3/2019 2:04:37 AM	46575		
E RANGE				Analys	t: DJF		
ND	4.9	mg/Kg	1	8/1/2019 5:30:35 PM	46508		
91.8	70-130	%Rec	1	8/1/2019 5:30:35 PM	46508		
GE ORGANICS				Analys	t: TOM		
ND	9.5	mg/Kg	1	8/1/2019 2:22:13 PM	46517		
ND	48	mg/Kg	1	8/1/2019 2:22:13 PM	46517		
83.5	70-130	%Rec	1	8/1/2019 2:22:13 PM	46517		
IORT LIST				Analys	t: DJF		
ND	0.025	mg/Kg	1	8/1/2019 5:30:35 PM	46508		
ND	0.049	mg/Kg	1	8/1/2019 5:30:35 PM	46508		
ND	0.049	mg/Kg	1	8/1/2019 5:30:35 PM	46508		
ND	0.098	mg/Kg	1	8/1/2019 5:30:35 PM	46508		
90.9	70-130	%Rec	1	8/1/2019 5:30:35 PM	46508		
99.8	70-130	%Rec	1	8/1/2019 5:30:35 PM	46508		
87.5	70-130	%Rec	1	8/1/2019 5:30:35 PM	46508		
92.8	70-130	%Rec	1	8/1/2019 5:30:35 PM	46508		
	Result           210           1.7           E RANGE           ND           91.8           GE ORGANICS           ND           83.5           ORT LIST           ND           ND           90.9           99.8           87.5	Matrix:         SOIL           Result         RL           210         7.5           1.7         1.5           E RANGE         ND         4.9           91.8         70-130           GE ORGANICS         ND         9.5           ND         4.8           83.5         70-130           IORT LIST         ND         0.025           ND         0.049           ND         0.098           90.9         70-130           99.8         70-130           99.8         70-130           87.5         70-130	Matrix: SOIL         Received Data           Result         RL         Qual         Units           210         7.5         mg/Kg           1.7         1.5         mg/Kg           1.7         1.5         mg/Kg           91.8         70-130         %Rec           GE ORGANICS         UND         4.9           ND         4.9         mg/Kg           ND         4.9         mg/Kg           83.5         70-130         %Rec           ORT LIST         ND         0.025         mg/Kg           ND         0.025         mg/Kg           ND         0.049         mg/Kg           ND         0.098         mg/Kg           ND         0.	ND         4.9         mg/Kg         5           ND         4.9         mg/Kg         1           GE ORGANICS         ND         4.8         mg/Kg         1           ND         4.9         mg/Kg         1         1           OPT         4.8         mg/Kg         1         1           ND         0.025         mg/Kg         1           ND         0.049         mg/Kg         1           ND         0.049         mg/Kg         1           ND         0.098         mg/Kg         1           ND         0.098         mg/Kg	Collection Date:         7/26/2019         9:08:00         AM           Matrix:         SOIL         Received Date:         7/30/2019         8:43:00         AM           Result         RL         Qual         Units         DF         Date Analyzed           Result         RL         Qual         Units         DF         Date Analyzed           210         7.5         mg/Kg         5         8/3/2019         2:04:37         AM           1.7         1.5         mg/Kg         5         8/3/2019         2:04:37         AM           1.7         1.5         mg/Kg         5         8/3/2019         2:04:37         AM           E RANGE         XD         4.9         mg/Kg         1         8/1/2019         2:04:37         AM           BE RANGE         XD         9.0         mg/Kg         1         8/1/2019         2:04:37         AM           BE RANGE         XD         9.0         Mg/Kg         1         8/1/2019         5:0:35         PM           MD         9.9         70-130         %Rec         1         8/1/2019         2:22:13         PM           ND         0.025         mg/Kg         1         8/1/2019		

Qualifiers:	* H ND PQL	Not Detected at the Reporting Limit Practical Quanitative Limit	P RL	Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 10 of 0
	S	% Recovery outside of range due to dilution or matrix			

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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company			ent Sample II			
<b>Project:</b> RHWMS <b>Lab ID:</b> 1907F03-011	Matrix: SOIL	-			26/2019 9:12:00 AM 30/2019 8:43:00 AM	
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	st: 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: GASOLIN	E RANGE				Analys	st: 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 RAN	GE ORGANICS				Analys	st: 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 SH	ORT LIST				Analys	st: 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

Qualifiers:	* D H ND	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded ELLING NOT Not Detected at the Reporting Limit	$\begin{bmatrix} A^{B}_{E} \end{bmatrix}$	Analyte detected in the associated Method Blank Value above quantitation range analyte detected below quantitation limits Sample pH Not In Range	
	PQL S	Practical Quanitative Limit % Recovery outside of range due to dilution or matrix	RL	Reporting Limit	Page 11 of 0

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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

	Cli	ent Sample II	): Wa	all-12			
Collection Date: 7/26/2019 9:11:00 AM							
Matrix: SOIL	Iatrix: SOIL         Received Date: 7/30/2019 8:43:00 AM						
Result	RL	Qual Units	DF	Date Analyzed	Batch		
				Analys	st: CAS		
340	30	mg/Kg	20	8/3/2019 3:56:18 AM	46575		
3.0	1.5	mg/Kg	5	8/3/2019 3:43:53 AM	46575		
E RANGE				Analys	st: DJF		
ND	5.0	mg/Kg	1	8/1/2019 7:28:54 PM	46508		
92.3	70-130	%Rec	1	8/1/2019 7:28:54 PM	46508		
GE ORGANICS				Analys	st: TOM		
ND	9.9	mg/Kg	1	8/1/2019 3:11:15 PM	46517		
ND	49	mg/Kg	1	8/1/2019 3:11:15 PM	46517		
82.3	70-130	%Rec	1	8/1/2019 3:11:15 PM	46517		
ORT LIST				Analys	st: DJF		
ND	0.025	mg/Kg	1	8/1/2019 7:28:54 PM	46508		
ND	0.050	mg/Kg	1	8/1/2019 7:28:54 PM	46508		
ND	0.050	mg/Kg	1	8/1/2019 7:28:54 PM	46508		
ND	0.10	mg/Kg	1	8/1/2019 7:28:54 PM	46508		
87.1	70-130	%Rec	1	8/1/2019 7:28:54 PM	46508		
98.8	70-130	%Rec	1	8/1/2019 7:28:54 PM	46508		
89.0	70-130	%Rec	1	8/1/2019 7:28:54 PM	46508		
93.8	70-130	%Rec	1	8/1/2019 7:28:54 PM	46508		
	Result           340           3.0           E RANGE           ND           92.3           GE ORGANICS           ND           82.3           ORT LIST           ND           ND           ND           ND           87.1           98.8           89.0	Matrix:         SOIL         I           Result         RL           340         30           3.0         1.5           E RANGE         ND         5.0           92.3         70-130           GE ORGANICS         ND         9.9           ND         49           82.3         70-130           ORT LIST         ND         0.025           ND         0.050           ND         0.050           ND         0.050           ND         0.010           87.1         70-130           98.8         70-130           98.8         70-130           89.0         70-130	Matrix:         SOIL         Collection Data           Matrix:         SOIL         Received Data           Result         RL         Qual         Units           340         30         mg/Kg           3.0         1.5         mg/Kg           3.0         1.5         mg/Kg           92.3         70-130         %Rec           GE ORGANICS         Units         MD           ND         9.9         mg/Kg           ND         0.025         mg/Kg           ND         0.050         mg/Kg           ND         0.050         mg/Kg           ND         0.10         mg/Kg           ND         0.10         mg/Kg           ND         0.10         mg/Kg           ND         0.10         mg/Kg           ND         0.10	ND         9.9         mg/Kg         1           MD         9.9         mg/Kg         1           ND         0.025         mg/Kg         1           ND         0.050         mg/Kg         1           ND         0.010         mg/Kg         1           ND         0.025         mg/Kg         1           ND         0.010         mg/Kg         1           ND         0.10         mg/Kg         1           ND         0.10         mg/Kg         1	Matrix: SOIL         Received Date:         7/30/2019         8:43:00 AM           Result         RL         Qual         Units         DF         Date Analyzed           340         30         mg/Kg         20         8/3/2019         3:56:18 AM           3.0         1.5         mg/Kg         5         8/3/2019         3:45:3 AM           Be RANGE         Value         Analys         Analys           ND         5.0         mg/Kg         1         8/1/2019         7:28:54 PM           92.3         70-130         %Rec         1         8/1/2019         7:28:54 PM           GE ORGANICS         Analys         Analys         Analys           ND         9.9         mg/Kg         1         8/1/2019         3:11:15 PM           ND         49         mg/Kg         1         8/1/2019         3:11:15 PM           82.3         70-130         %Rec         1         8/1/2019         3:11:15 PM           ND         0.025         mg/Kg         1         8/1/2019         3:11:15 PM           ND         0.025         mg/Kg         1         8/1/2019         7:28:54 PM           ND         0.050         mg/Kg         1		

Qualifiers:	* D H ND	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded Not Detected at the Reporting Limit	$\mathbf{A}_{P}^{B}$	Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits Sample pH Not In Range	D 10 00
	PQL	Practical Quanitative Limit % Recovery outside of range due to dilution or matrix	RL	Reporting Limit	Page 12 of 0
	3	70 Recovery outside of range due to undfoll of filatitx			

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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

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         Bar           EPA METHOD 300.0:         ANIONS         Analyse         Result         RL         Qual         Units         DF         Date Analyzed         Bar           Chloride         96         7.5         mg/Kg         5         8/3/2019         4:08:43 AM         466           Bromide         ND         1.5         mg/Kg         5         8/3/2019         4:08:43 AM         466           EPA METHOD 8015D MOD:         GASOLINE RANGE         Fanalyst:         DJ           Gasoline Range Organics (GRO)         ND         4.9         mg/Kg         1         8/1/2019         7:58:20 PM         466           Sur:: BFB         90.9         70-130         %Rec         1         8/1/2019         3:54:6 PM         466           Sur:: BFB         90.9         70-130         %Rec         1         8/1/2019         3:53:46 PM         466           Sur:: DI									
Lab ID:         1907F03-013         Matrix:         SOIL         Received Date:         7/30/2019         8:43:00 AM           Analyses         Result         RL         Qual         Units         DF         Date Analyzed         Bar           EPA METHOD 300.0:         ANIONS         Kesult         Result         Res         Matrix:         Sold         Sold         Sold         Sold         CA           Chloride         96         7.5         mg/Kg         5         8/3/2019         4:08:43 AM         466           Bromide         ND         1.5         mg/Kg         5         8/3/2019         4:08:43 AM         466           Bromide         ND         1.5         mg/Kg         5         8/3/2019         4:08:43 AM         466           Bromide         ND         0.15         mg/Kg         1         8/1/2019         7:58:20 PM         466           Surr: BFB         90.9         70-130         %Rec         1         8/1/2019         3:53:46 PM         466           Surr: BFB         90.9         70-130         %Rec         1         8/1/2019         3:53:46 PM         466           Surr: BFB         90.9         70-130         %Rec         1	CLIENT: Mewbourne Oil Company		Cli	ent Sample II	<b>):</b> W	all-13			
Analyses         Result         RL         Qual         Units         DF         Date Analyzed         Bat           EPA METHOD 300.0: ANIONS         5         8/3/2019 4:08:43 AM         468           Chloride         96         7.5         mg/Kg         5         8/3/2019 4:08:43 AM         468           Bromide         ND         1.5         mg/Kg         5         8/3/2019 4:08:43 AM         468           EPA METHOD 8015D MOD: GASOLINE RANGE          mg/Kg         1         8/1/2019 7:58:20 PM         468           Gasoline Range Organics (GRO)         ND         4.9         mg/Kg         1         8/1/2019 7:58:20 PM         468           Surr: BFB         90.9         70-130         %Rec         1         8/1/2019 7:58:20 PM         468           Diesel Range Organics (DRO)         ND         4.9         mg/Kg         1         8/1/2019 7:58:20 PM         468           Motor Oil Range Organics (MRO)         ND         9.7         mg/Kg         1         8/1/2019 3:35:46 PM         468           Surr: DNOP         81.3         70-130         %Rec         1         8/1/2019 7:58:20 PM         468           Ehylbenzene         ND         0.025         mg/Kg         1	Project: RHWMS	Collection Date: 7/26/2019 9:32:00 AM							
EPA METHOD 300.0: ANIONS         Analyst:         CA           Chloride         96         7.5         mg/Kg         5         8/3/2019 4:08:43 AM         468           Bromide         ND         1.5         mg/Kg         5         8/3/2019 4:08:43 AM         468           Bromide         ND         1.5         mg/Kg         5         8/3/2019 4:08:43 AM         468           EPA METHOD 8015D MOD: GASOLINE RANGE         Analyst:         DJ         Surr: BFB         90.9         70-130         %Rec         1         8/1/2019 7:58:20 PM         468           Surr: BFB         90.9         70-130         %Rec         1         8/1/2019 3:35:46 PM         466           Diesel Range Organics (DRO)         ND         9.7         mg/Kg         1         8/1/2019 3:35:46 PM         466           Surr: DNOP         81.3         70-130         %Rec         1         8/1/2019 3:35:46 PM         466           Surr: DNOP         81.3         70-130         %Rec         1         8/1/2019 3:35:46 PM         466           Surr: DNOP         81.3         70-130         %Rec         1         8/1/2019 7:58:20 PM         466           EPA METHOD 8260B: VOLATILES SHORT LIST         Analyst:         DJ	Lab ID: 1907F03-013	Matrix: SOIL	]	Received Date	e: 7/	30/2019 8:43:00 AM			
Chloride       96       7.5       mg/Kg       5       8/3/2019 4:08:43 AM       468         Bromide       ND       1.5       mg/Kg       5       8/3/2019 4:08:43 AM       468         EPA METHOD 8015D MOD: GASOLINE RANGE       Analyst: DJ         Gasoline Range Organics (GRO)       ND       4.9       mg/Kg       1       8/1/2019 7:58:20 PM       468         Surr: BFB       90.9       70-130       %Rec       1       8/1/2019 7:58:20 PM       468         EPA METHOD 8015M/D: DIESEL RANGE ORGANICS       Analyst: TO         Diesel Range Organics (DRO)       ND       9.7       mg/Kg       1       8/1/2019 3:35:46 PM       468         Motor Oil Range Organics (MRO)       ND       4.8       mg/Kg       1       8/1/2019 3:35:46 PM       468         Surr: DNOP       81.3       70-130       %Rec       1       8/1/2019 3:35:46 PM       468         Benzene       ND       0.025       mg/Kg       1       8/1/2019 3:35:46 PM       468         Guidene       ND       0.025       mg/Kg       1       8/1/2019 7:58:20 PM       468         Benzene       ND       0.049       mg/Kg       1       8/1/2019 7:58:20 PM       468	Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch		
Bromide         ND         1.5         mg/Kg         5         8/3/2019 4:08:43 AM         466           EPA METHOD 8015D MOD: GASOLINE RANGE         Analyst:         DJ           Gasoline Range Organics (GRO)         ND         4.9         mg/Kg         1         8/1/2019 7:58:20 PM         466           Surr: BFB         90.9         70-130         %Rec         1         8/1/2019 7:58:20 PM         466           EPA METHOD 8015M/D: DIESEL RANGE ORGANICS         Malyst:         TO           Diesel Range Organics (DRO)         ND         9.7         mg/Kg         1         8/1/2019 3:35:46 PM         466           Motor Oil Range Organics (MRO)         ND         9.7         mg/Kg         1         8/1/2019 3:35:46 PM         466           Surr: DNOP         81.3         70-130         %Rec         1         8/1/2019 3:35:46 PM         466           EPA METHOD 8260B: VOLATILES SHORT LIST         Analyst:         DJ           Benzene         ND         0.025         mg/Kg         1         8/1/2019 7:58:20 PM         466           Toluene         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         466           Kylenes, Total         ND         0.049         mg/Kg	EPA METHOD 300.0: ANIONS					Analys	t: CAS		
EPA METHOD 8015D MOD: GASOLINE RANGE         Analysti         DJ           Gasoline Range Organics (GRO)         ND         4.9         mg/Kg         1         8/1/2019 7:58:20 PM         468           Surr: BFB         90.9         70-130         %Rec         1         8/1/2019 7:58:20 PM         468           EPA METHOD 8015M/D: DIESEL RANGE ORGANICS         Analysti         TO           Diesel Range Organics (DRO)         ND         9.7         mg/Kg         1         8/1/2019 3:35:46 PM         468           Motor Oil Range Organics (MRO)         ND         9.7         mg/Kg         1         8/1/2019 3:35:46 PM         468           Surr: DNOP         81.3         70-130         %Rec         1         8/1/2019 3:35:46 PM         468           EPA METHOD 8260B: VOLATILES SHORT LIST         Analyst:         DJ           Benzene         ND         0.025         mg/Kg         1         8/1/2019 7:58:20 PM         468           Toluene         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         468           Ethylbenzene         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         468           Surr: 1,2-Dichloroethane-d4         86.9         70-130 <td< td=""><td>Chloride</td><td>96</td><td>7.5</td><td>mg/Kg</td><td>5</td><td>8/3/2019 4:08:43 AM</td><td>46575</td></td<>	Chloride	96	7.5	mg/Kg	5	8/3/2019 4:08:43 AM	46575		
Gasoline Range Organics (GRO)       ND       4.9       mg/Kg       1       8/1/2019 7:58:20 PM       468         Surr: BFB       90.9       70-130       %Rec       1       8/1/2019 7:58:20 PM       468         EPA METHOD 8015M/D: DIESEL RANGE ORGANICS       Analyst:       TO         Diesel Range Organics (DRO)       ND       9.7       mg/Kg       1       8/1/2019 3:35:46 PM       468         Motor Oil Range Organics (MRO)       ND       48       mg/Kg       1       8/1/2019 3:35:46 PM       468         Surr: DNOP       81.3       70-130       %Rec       1       8/1/2019 3:35:46 PM       468         EPA METHOD 8260B: VOLATILES SHORT LIST       Analyst:       Disel Range Organics (DRO)       ND       48       mg/Kg       1       8/1/2019 7:58:20 PM       468         EPA METHOD 8260B: VOLATILES SHORT LIST       Analyst:       Disel Range Organics (DRO)       ND       0.025       mg/Kg       1       8/1/2019 7:58:20 PM       468         Toluene       ND       0.049       mg/Kg       1       8/1/2019 7:58:20 PM       468         Ethylbenzene       ND       0.049       mg/Kg       1       8/1/2019 7:58:20 PM       468         Surr: 1,2-Dichloroethane-d4       86.9       70-130	Bromide	ND	1.5	mg/Kg	5	8/3/2019 4:08:43 AM	46575		
Surr: BFB       90.9       70-130       %Rec       1       8/1/2019 7:58:20 PM       468         EPA METHOD 8015M/D: DIESEL RANGE ORGANICS       Analyst: TO         Diesel Range Organics (DRO)       ND       9.7       mg/Kg       1       8/1/2019 3:35:46 PM       468         Motor Oil Range Organics (MRO)       ND       48       mg/Kg       1       8/1/2019 3:35:46 PM       468         Surr: DNOP       81.3       70-130       %Rec       1       8/1/2019 3:35:46 PM       468         EPA METHOD 8260B: VOLATILES SHORT LIST       Analyst       Toluene       ND       0.025       mg/Kg       1       8/1/2019 7:58:20 PM       468         Toluene       ND       0.025       mg/Kg       1       8/1/2019 7:58:20 PM       468         Ethylbenzene       ND       0.049       mg/Kg       1       8/1/2019 7:58:20 PM       468         Xylenes, Total       ND       0.049       mg/Kg       1       8/1/2019 7:58:20 PM       468         Surr: 1,2-Dichloroethane-d4       86.9       70-130       mg/Kg       1       8/1/2019 7:58:20 PM       468         Surr: 4-Bromofluorobenzene       96.7       70-130       %Rec       1       8/1/2019 7:58:20 PM       468         Su	EPA METHOD 8015D MOD: GASOLINE	ERANGE				Analys	t: DJF		
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS         Analyst: TO           Diesel Range Organics (DRO)         ND         9.7         mg/Kg         1         8/1/2019 3:35:46 PM         466           Motor Oil Range Organics (MRO)         ND         48         mg/Kg         1         8/1/2019 3:35:46 PM         466           Surr: DNOP         81.3         70-130         %Rec         1         8/1/2019 3:35:46 PM         466           EPA METHOD 8260B: VOLATILES SHORT LIST         Analyst:         Dualyst:         Dualyst:         Dualyst:           Benzene         ND         0.025         mg/Kg         1         8/1/2019 7:58:20 PM         466           Toluene         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         466           Kylenes, Total         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         466           Surr: 1,2-Dichloroethane-d4         86.9         70-130         mg/Kg         1         8/1/2019 7:58:20 PM         466           Surr: 4-Bromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         466           Surr: 1,2-Dichloroethane-d4         86.9         70-130         %Rec         1         8/1/2019 7:58:2	Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	8/1/2019 7:58:20 PM	46508		
Diesel Range Organics (DRO)         ND         9.7         mg/Kg         1         8/1/2019 3:35:46 PM         466           Motor Oil Range Organics (MRO)         ND         48         mg/Kg         1         8/1/2019 3:35:46 PM         466           Surr: DNOP         81.3         70-130         %Rec         1         8/1/2019 3:35:46 PM         466           EPA METHOD 8260B: VOLATILES SHORT LIST         Analyst:         DJ           Benzene         ND         0.025         mg/Kg         1         8/1/2019 7:58:20 PM         466           Toluene         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         466           Kylenes, Total         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         466           Surr: 1,2-Dichloroethane-d4         86.9         70-130         mg/Kg         1         8/1/2019 7:58:20 PM         466           Surr: 4-Bromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         466           Surr: 4-Bromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         466           Surr: Dibromofluoromethane         89.0         70-130         %Rec	Surr: BFB	90.9	70-130	%Rec	1	8/1/2019 7:58:20 PM	46508		
Motor Oil Range Organics (MRO)         ND         48         mg/Kg         1         8/1/2019 3:35:46 PM         465           Surr: DNOP         81.3         70-130         %Rec         1         8/1/2019 3:35:46 PM         465           EPA METHOD 8260B: VOLATILES SHORT LIST         Analysi: DJ           Benzene         ND         0.025         mg/Kg         1         8/1/2019 7:58:20 PM         465           Toluene         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         465           Ethylbenzene         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         465           Xylenes, Total         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         465           Surr: 1,2-Dichloroethane-d4         86.9         70-130         mg/Kg         1         8/1/2019 7:58:20 PM         465           Surr: 4-Bromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         465           Surr: Dibromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         465           Surr: Dibromofluorobenzene         96.7         70-130         %Rec         1	EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS				Analys	t: TOM		
Surr: DNOP         81.3         70-130         %Rec         1         8/1/2019 3:35:46 PM         465           EPA METHOD 8260B: VOLATILES SHORT LIST           Benzene         ND         0.025         mg/Kg         1         8/1/2019 7:58:20 PM         465           Toluene         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         465           Ethylbenzene         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         465           Xylenes, Total         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         465           Surr: 1,2-Dichloroethane-d4         86.9         70-130         %Rec         1         8/1/2019 7:58:20 PM         465           Surr: 4-Bromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         465           Surr: 1,2-Dichloroethane-d4         86.9         70-130         %Rec         1         8/1/2019 7:58:20 PM         465           Surr: 1,2-Dichloroethane-d4         86.9         70-130         %Rec         1         8/1/2019 7:58:20 PM         465           Surr: 1,2-Dichloroethane         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM<	Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	8/1/2019 3:35:46 PM	46517		
EPA METHOD 8260B: VOLATILES SHORT LIST         Analyst:         DJ           Benzene         ND         0.025         mg/Kg         1         8/1/2019 7:58:20 PM         468           Toluene         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         468           Ethylbenzene         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         468           Xylenes, Total         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         468           Surr: 1,2-Dichloroethane-d4         86.9         70-130         %Rec         1         8/1/2019 7:58:20 PM         468           Surr: 4-Bromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         468           Surr: Dibromofluoromethane         89.0         70-130         %Rec         1         8/1/2019 7:58:20 PM         468	Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	8/1/2019 3:35:46 PM	46517		
Benzene         ND         0.025         mg/Kg         1         8/1/2019 7:58:20 PM         468           Toluene         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         468           Ethylbenzene         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         468           Xylenes, Total         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         468           Surr: 1,2-Dichloroethane-d4         ND         0.099         mg/Kg         1         8/1/2019 7:58:20 PM         468           Surr: 4-Bromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         468           Surr: Dibromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         468           Surr: Dibromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         468           Surr: Dibromofluoromethane         89.0         70-130         %Rec         1         8/1/2019 7:58:20 PM         468	Surr: DNOP	81.3	70-130	%Rec	1	8/1/2019 3:35:46 PM	46517		
Toluene         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         465           Ethylbenzene         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         465           Xylenes, Total         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         465           Surr: 1,2-Dichloroethane-d4         ND         0.099         mg/Kg         1         8/1/2019 7:58:20 PM         465           Surr: 4-Bromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         465           Surr: Dibromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         465           Surr: Dibromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         465	EPA METHOD 8260B: VOLATILES SHO	ORT LIST				Analys	t: DJF		
Ethylbenzene         ND         0.049         mg/Kg         1         8/1/2019 7:58:20 PM         465           Xylenes, Total         ND         0.099         mg/Kg         1         8/1/2019 7:58:20 PM         465           Surr: 1,2-Dichloroethane-d4         86.9         70-130         %Rec         1         8/1/2019 7:58:20 PM         465           Surr: 4-Bromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         465           Surr: Dibromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         465           Surr: Dibromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         465	Benzene	ND	0.025	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         468           Surr: 1,2-Dichloroethane-d4         86.9         70-130         %Rec         1         8/1/2019 7:58:20 PM         468           Surr: 4-Bromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         468           Surr: Dibromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         468           Surr: Dibromofluoromethane         89.0         70-130         %Rec         1         8/1/2019 7:58:20 PM         468	Toluene	ND	0.049	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         465           Surr: 4-Bromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         465           Surr: Dibromofluorobenzene         96.7         70-130         %Rec         1         8/1/2019 7:58:20 PM         465           Surr: Dibromofluoromethane         89.0         70-130         %Rec         1         8/1/2019 7:58:20 PM         465	Ethylbenzene	ND	0.049	mg/Kg	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         465           Surr: Dibromofluoromethane         89.0         70-130         %Rec         1         8/1/2019         7:58:20         PM         465	Xylenes, Total	ND	0.099	mg/Kg	1	8/1/2019 7:58:20 PM	46508		
Surr: Dibromofluoromethane         89.0         70-130         %Rec         1         8/1/2019         7:58:20         PM         465	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: Toluene-d8 94.4 70-130 %Rec 1 8/1/2019 7:58:20 PM 465	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		

Qualifiers:	* D H ND POL	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded ELINII Not Detected at the Reporting Limit Practical Quanitative Limit	NA <sup>B</sup> P RL	Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 13 of 0
	S	% Recovery outside of range due to dilution or matrix	KL	Reporting Linn	1 480 10 01 0

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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

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		-			
Matrix: SOIL		<b>Received</b> Dat	<b>e:</b> 7/	30/2019 8:43:00 AM	
Result	RL	Qual Units	DF	Date Analyzed	Batch
				Analys	st: CAS
ND	7.5	mg/Kg	5	8/3/2019 4:33:31 AM	46575
ND	1.5	mg/Kg	5	8/3/2019 4:33:31 AM	46575
E RANGE				Analys	st: DJF
ND	5.0	mg/Kg	1	8/1/2019 8:27:45 PM	46508
93.2	70-130	%Rec	1	8/1/2019 8:27:45 PM	46508
GE ORGANICS				Analys	st: TOM
ND	10	mg/Kg	1	8/1/2019 4:00:22 PM	46517
ND	51	mg/Kg	1	8/1/2019 4:00:22 PM	46517
75.0	70-130	%Rec	1	8/1/2019 4:00:22 PM	46517
ORT LIST				Analys	st: DJF
ND	0.025	mg/Kg	1	8/1/2019 8:27:45 PM	46508
ND	0.050	mg/Kg	1	8/1/2019 8:27:45 PM	46508
ND	0.050	mg/Kg	1	8/1/2019 8:27:45 PM	46508
ND	0.099	mg/Kg	1	8/1/2019 8:27:45 PM	46508
88.2	70-130	%Rec	1	8/1/2019 8:27:45 PM	46508
95.5	70-130	%Rec	1	8/1/2019 8:27:45 PM	46508
90.8	70-130	%Rec	1	8/1/2019 8:27:45 PM	46508
97.5	70-130	%Rec	1	8/1/2019 8:27:45 PM	46508
	Matrix: SOIL Result ND ND 93.2 GE ORGANICS ND ND 75.0 ORT LIST ND ND ND ND ND ND ND ND ND ND ND ND ND	Cli C Matrix: SOIL Result RL ND 7.5 ND 7.5 ND 1.5 E RANGE ND 5.0 93.2 70-130 GE ORGANICS ND 10 ND 51 75.0 70-130 ORT LIST ND 0.025 ND 0.050 ND 0.050 ND 0.050 ND 0.099 88.2 70-130 95.5 70-130 90.8 70-130	ND         7.5         mg/Kg           ND         7.5         mg/Kg           ND         1.5         mg/Kg           SOIL         0         0           ND         1.5         mg/Kg           SOIL         0         0           ND         1.5         mg/Kg           SE RANGE         0         0           ND         5.0         mg/Kg           SE ORGANICS         0         0           ND         10         mg/Kg           ND         51         mg/Kg           ND         51         mg/Kg           ND         0.025         mg/Kg           ND         0.050         mg/Kg           ND         <	ND         7.5         mg/Kg         5           ND         7.5         mg/Kg         5           ND         1.5         mg/Kg         5           E RANGE         ND         5.0         mg/Kg         1           ND         5.0         mg/Kg         1         7           Base of the state of the s	Client Sample ID: Wall-14           Collection Date: 7/26/2019 9:33:00 AM           Matrix: SOIL         Received Date: 7/30/2019 8:43:00 AM           Result         RL         Qual         Units         DF         Date Analyzed           ND         7.5         mg/Kg         5         8/3/2019 4:33:31 AM         Analys           ND         7.5         mg/Kg         5         8/3/2019 4:33:31 AM         Analys           ND         7.5         mg/Kg         5         8/3/2019 4:33:31 AM           ND         1.5         mg/Kg         5         8/3/2019 4:33:31 AM           E RANGE         Analys           ND         5.0         mg/Kg         1         8/1/2019 8:27:45 PM           93.2         70-130         %Rec         1         8/1/2019 8:27:45 PM           GE ORGANICS         Analys           ND         10         mg/Kg         1         8/1/2019 4:00:22 PM           75.0         70-130         %Rec         1         8/1/2019 8:27:45 PM           ND         0.025         mg/Kg         1         8/1/2019 8:27:45 PM           ND         0.025         mg/Kg         1         8/1/2019 8:27:45 PM </td

Qualifiers:	* D H	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded ELININ	A <sup>B</sup>	Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	D 14 60
	PQL	Practical Quanitative Limit	RL	Reporting Limit	Page 14 of 0
	S	% Recovery outside of range due to dilution or matrix			

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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		<b>Received Dat</b>	e: 7/3	80/2019 8:43:00 AM			
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS					Analys	st: 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: GASOLII	NE RANGE				Analys	st: 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 RAM	NGE ORGANICS				Analys	st: 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 SI	HORT LIST				Analys	st: 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		

Qualifiers:	* H ND PQL S	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded ELLING Not Detected at the Reporting Limit Practical Quanitative Limit % Recovery outside of range due to dilution or matrix	P RL	Analyte detected in the associated Method Blank Value above quantitation range analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 15 of 0
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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company		Cli	ent Sample II	<b>):</b> W	all-16			
Project: RHWMS	Collection Date: 7/26/2019 9:35:00 AM							
Lab ID: 1907F03-016	Matrix: SOIL		Received Date	e: 7/3	30/2019 8:43:00 AM			
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS					Analys	t: 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: GASOLIN	ERANGE				Analys	t: 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 RAN	GE ORGANICS				Analys	t: 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 SH	IORT LIST				Analys	t: 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		

Qualifiers:	* H ND PQL	Not Detected at the Reporting Limit Practical Quanitative Limit	P RL	Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 16 of 0
	S	% Recovery outside of range due to dilution or matrix			

Analytical Report Lab Order 1907F03

Date Reported:

#### Hall Environmental Analysis Laboratory, Inc.

	5 <b>Zu</b> 8 61 <b>u</b> 601 <i>j</i> , 1				Date Reported.		
CLIENT: Mewbourne Oil Company Project: RHWMS	Client Sample ID: Wall-17 Collection Date: 7/26/2019 9:38:00 AM						
Lab ID: 1907F03-017	Matrix: SOIL	R	eceived Date	e: 7/3	0/2019 8:43:00 AM		
Analyses	Result	RL Q	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analys	t: 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: GASOLIN	E RANGE				Analys	t: 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 RANG	GE ORGANICS				Analys	t: 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 SH	ORT LIST				Analys	t: 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	

Qualifiers:	* D H	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded		Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	D 17 60
	PQL	Practical Quanitative Limit	RL	Reporting Limit	Page 17 of 0
	S	% Recovery outside of range due to dilution or matrix			

Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

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CLIENT: Mewbourne Oil Company Project: RHWMS	Client Sample ID: Wall-18 Collection Date: 7/26/2019 9:40:00 AM							
Lab ID: 1907F03-018	Matrix: SOIL		<b>Received Dat</b>	<b>e:</b> 7/3	80/2019 8:43:00 AM			
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS					Analys	t: 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: GASOLIN	E RANGE				Analys	t: 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 RANG	GE ORGANICS				Analys	t: 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 SH	ORT LIST				Analys	t: 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		

Qualifiers:	* D H	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded ELININ	$\mathbf{A}^{\mathbf{B}}$	Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	D 10 . CO
	PQL	Practical Quanitative Limit	RL	Reporting Limit	Page 18 of 0
	S	% Recovery outside of range due to dilution or matrix			

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Analytical Report Lab Order 1907F03

Date Reported:

#### Hall Environmental Analysis Laboratory, Inc.

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	on Date			
Receiv		: 7/26	5/2019 9:50:00 AM	
	red Date	e: 7/30	)/2019 8:43:00 AM	
RL Qual	Units	DF 3	Date Analyzed	Batch
			Analyst	CAS
150	mg/Kg	100	8/6/2019 1:47:20 PM	46575
1.5	mg/Kg	5	8/5/2019 7:38:18 PM	46575
			Analyst	DJF
5.0	mg/Kg	1	8/2/2019 12:51:11 AM	46508
0-130	%Rec	1	8/2/2019 12:51:11 AM	46508
			Analyst	: TOM
9.2	mg/Kg	1	8/1/2019 6:03:29 PM	46517
46	mg/Kg	1	8/1/2019 6:03:29 PM	46517
0-130	%Rec	1	8/1/2019 6:03:29 PM	46517
			Analyst	DJF
0.025	mg/Kg	1	8/2/2019 12:51:11 AM	46508
0.050	mg/Kg	1	8/2/2019 12:51:11 AM	46508
0.050	mg/Kg	1	8/2/2019 12:51:11 AM	46508
0.10	mg/Kg	1	8/2/2019 12:51:11 AM	46508
0-130	%Rec	1	8/2/2019 12:51:11 AM	46508
0-130	%Rec	1	8/2/2019 12:51:11 AM	46508
0-130	%Rec	1	8/2/2019 12:51:11 AM	46508
0-130	%Rec	1	8/2/2019 12:51:11 AM	46508
	RL         Qual           150         1.5           5.0         0.130           9.2         46           0.130         0.025           0.050         0.050	RL         Qual         Units           150         mg/Kg           1.5         mg/Kg           5.0         mg/Kg           0-130         %Rec           9.2         mg/Kg           0-130         %Rec           0.025         mg/Kg           0.050         mg/Kg           0.10         mg/Kg           0.130         %Rec           0.10         mg/Kg           0.130         %Rec           0.130         %Rec           0.130         %Rec	RL         Qual         Units         DF           150         mg/Kg         100           1.5         mg/Kg         5           5.0         mg/Kg         1           0-130         %Rec         1           9.2         mg/Kg         1           0-130         %Rec         1           0.025         mg/Kg         1           0.050         mg/Kg         1           0.050         mg/Kg         1           0.10         mg/Kg         1           0.10         mg/Kg         1           0.130         %Rec         1	Analyst 150 mg/Kg 100 8/6/2019 1:47:20 PM 1.5 mg/Kg 5 8/5/2019 7:38:18 PM Analyst 5.0 mg/Kg 1 8/2/2019 12:51:11 AM 0-130 %Rec 1 8/2/2019 12:51:11 AM Analyst 9.2 mg/Kg 1 8/1/2019 6:03:29 PM 46 mg/Kg 1 8/1/2019 6:03:29 PM 0-130 %Rec 1 8/1/2019 6:03:29 PM Analyst 0.025 mg/Kg 1 8/2/2019 12:51:11 AM 0.050 mg/Kg 1 8/2/2019 12:51:11 AM 0.050 mg/Kg 1 8/2/2019 12:51:11 AM 0.10 mg/Kg 1 8/2/2019 12:51:11 AM 0.10 mg/Kg 1 8/2/2019 12:51:11 AM 0.130 %Rec 1 8/2/2019 12:51:11 AM 0-130 %Rec 1 8/2/2019 12:51:11 AM

Qualifiers:	* H ND PQL	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded ELLINGING Not Detected at the Reporting Limit Practical Quanitative Limit	P RL	Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 19 of 0
	s	% Recovery outside of range due to dilution or matrix			

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Analytical Report Lab Order 1907F03

Date Reported:

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CLIENT: Mewbourne Oil Company Project: RHWMS	Client Sample ID: Floor-2 Collection Date: 7/26/2019 9:53:00 AM Matrix: SOIL Received Date: 7/30/2019 8:43:00 AM						
Lab ID: 1907F03-020	Matrix: SOIL	K	eceived Date	: //3	50/2019 8:43:00 AM		
Analyses	Result	RL Ç	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analys	t: 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: GASOLIN	E RANGE				Analys	st: 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 RANG	GE ORGANICS				Analys	t: 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 SH	ORT LIST				Analys	t: 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	

Qualifiers:	* H ND PQL	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded Not Detected at the Reporting Limit Practical Quanitative Limit () Decomposition of source due to dilution promotion	IIN A <sup>B</sup> P RL	F	Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 20 of 0
	S	% Recovery outside of range due to dilution or matrix				

Analytical Report Lab Order 1907F03

Date Reported:

						Bute Reported.			
CLIENT: Project: Lab ID:	Mewbourne Oil Company RHWMS 1907F03-021	Client Sample ID: Floor-3Collection Date: 7/26/2019 9:56:00 AMMatrix: SOILReceived Date: 7/30/2019 8:43:00 AM							
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch		
EPA MET	THOD 300.0: ANIONS					Analys	st: 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 MET	THOD 8015D MOD: GASOLINE	ERANGE				Analys	st: DJF		
Gasoline	Range Organics (GRO)	ND	4.9	mg/Kg	1	8/2/2019 1:49:39 AM	46508		
Surr: B	3FB	92.6	70-130	%Rec	1	8/2/2019 1:49:39 AM	46508		
EPA MET	THOD 8015M/D: DIESEL RANG	GE ORGANICS				Analys	st: TOM		
Diesel Ra	ange 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: D	DNOP	79.6	70-130	%Rec	1	8/1/2019 6:52:56 PM	46517		
EPA MET	THOD 8260B: VOLATILES SHO	ORT LIST				Analys	st: 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		
Ethylbenz	zene	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	l-Bromofluorobenzene	96.0	70-130	%Rec	1	8/2/2019 1:49:39 AM	46508		
Surr: D	Dibromofluoromethane	87.7	70-130	%Rec	1	8/2/2019 1:49:39 AM	46508		
Surr: T	Toluene-d8	98.2	70-130	%Rec	1	8/2/2019 1:49:39 AM	46508		
		-			-				

Qualifiers:	* H ND PQL S	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded EELIN Not Detected at the Reporting Limit Practical Quanitative Limit © Recovery outside of range due to dilution or matrix	MINA <sup>B</sup> P RL	Analyte detected in the associated Method Blank Value above quantitation range analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 21 of 0
	s	% Recovery outside of range due to dilution or matrix		1 6	C

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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company		Clie	nt Sample II	): Flo	oor-4	
Project: RHWMS		Co	ollection Date	e: 7/2	26/2019 10:00:00 AM	
Lab ID: 1907F03-022	Matrix: SOIL	F	Received Date	<b>e:</b> 7/3	30/2019 8:43:00 AM	
Analyses	Result	RL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: CAS
Chloride	12000	750	mg/Kg	500	0 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: GASOLIN	ERANGE				Analys	t: 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 RAN	GE ORGANICS				Analys	t: 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 SH	IORT LIST				Analys	t: 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

Qualifiers:	* H ND PQL	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded Not Detected at the Reporting Limit Practical Quanitative Limit	P RL	Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 22 of 0
	S	% Recovery outside of range due to dilution or matrix			

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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company		CI.	~					
		Che	ent Sample II	D: Flo	por-5			
Project: RHWMS	Collection Date: 7/26/2019 10:02:00 AM							
Lab ID: 1907F03-023	Matrix: SOIL	<b>Received Date:</b> 7/30/2019 8:43:00 AM						
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS					Analys	st: CAS		
Chloride	22000	750	mg/Kg	50	0 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				Analys	st: 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 RANG	E ORGANICS				Analys	st: 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 SHO	ORT LIST				Analys	st: 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		

Qualifiers:	* D H ND PQL S	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded EELUI Not Detected at the Reporting Limit Practical Quanitative Limit % Recovery outside of range due to dilution or matrix	MINA <sup>B</sup> P RL	Analyte detected in the associated Method Blank Value above quantitation range analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 23 of 0
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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

<i></i>						Dute Reported.	
CLIENT: Mewbourne Oil Company Project: RHWMS Lab ID: 1907F03-024	Matrix: SOIL		Collect		e: 7/2	007-6 26/2019 10:05:00 AM 30/2019 8:43:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analys	t: 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: GASOLIN	E RANGE					Analys	t: 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 RAN	GE ORGANICS					Analys	t: 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 SH	ORT LIST					Analys	t: 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

Qualifiers:	* H ND PQL	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded ELINNIN Not Detected at the Reporting Limit Practical Quanitative Limit	P RL	Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 24 of 0
	S	% Recovery outside of range due to dilution or matrix			

Analytical Report Lab Order 1907F03

Date Reported:

#### Hall Environmental Analysis Laboratory, Inc.

	, , , , , , , , , , , , , , , , , , ,	1100			D	ate Reported.	
CLIENT: Mewbourne Oil Company		Cli	ent Sa	ample II	D: Floor	r-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 D	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analys	t: CAS
Chloride	12000	750		mg/Kg	500 8	3/6/2019 3:14:10 PM	46575
Bromide	97	6.0		mg/Kg	20 8	3/5/2019 10:44:27 PM	46575
EPA METHOD 8015D MOD: GASOLI	NE RANGE					Analys	t: DJF
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1 8	3/2/2019 3:47:44 AM	46508
Surr: BFB	88.5	70-130		%Rec	1 8	3/2/2019 3:47:44 AM	46508
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANICS					Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1 8	3/1/2019 8:31:29 PM	46517
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1 8	3/1/2019 8:31:29 PM	46517
Surr: DNOP	67.2	70-130	S	%Rec	1 8	3/1/2019 8:31:29 PM	46517
EPA METHOD 8260B: VOLATILES S	HORT LIST					Analys	t: DJF
Benzene	ND	0.025		mg/Kg	1 8	3/2/2019 3:47:44 AM	46508
Toluene	ND	0.049		mg/Kg	1 8	3/2/2019 3:47:44 AM	46508
Ethylbenzene	ND	0.049		mg/Kg	1 8	3/2/2019 3:47:44 AM	46508
Xylenes, Total	ND	0.099		mg/Kg	1 8	3/2/2019 3:47:44 AM	46508
Surr: 1,2-Dichloroethane-d4	90.3	70-130		%Rec	1 8	3/2/2019 3:47:44 AM	46508
Surr: 4-Bromofluorobenzene	91.7	70-130		%Rec	1 8	3/2/2019 3:47:44 AM	46508
Surr: Dibromofluoromethane	92.3	70-130		%Rec	1 8	3/2/2019 3:47:44 AM	46508
Surr: Toluene-d8	94.7	70-130		%Rec	1 8	3/2/2019 3:47:44 AM	46508

Qualifiers:	* D H ND PQL S	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded ELLING Not Detected at the Reporting Limit Practical Quanitative Limit % Recovery outside of range due to dilution or matrix	NA <sup>B</sup> P RL	Analyte detected in the associated Method Blank Value above quantitation range Anabre detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 25 of 0
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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company Project: RHWMS			ent Sample II follection Date		oor-8 26/2019 10:11:00 AM			
Lab ID: 1907F03-026	Matrix: SOIL	L Received Date: 7/30/2019 8:43:00 AM						
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS					Analys	t: 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: GASOLIN	E RANGE				Analys	t: 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 RANG	GE ORGANICS				Analys	t: 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 SH	ORT LIST				Analys	t: 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		

Qualifiers:	* H ND PQL	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded Not Detected at the Reporting Limit Practical Quanitative Limit	P RL	Analyte detected in the associated Method Blank Value above quantitation range Analyte detected below quantitation limits Sample pH Not In Range Reporting Limit	Page 26 of 0
	S	% Recovery outside of range due to dilution or matrix			

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Analytical Report Lab Order 1907F03

Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company Project: RHWMS	Matrix: SOIL	C	ent Sample II Collection Date							
0	Matrix: SOIL	-	Collection Date	· 7/7						
L ID 1007000.007	Matrix: SOIL		Collection Date: 7/26/2019 10:14:00 AM							
Lab ID: 1907F03-027		<b>Received Date:</b> 7/30/2019 8:43:00 AM								
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS					Analysi	t: 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: GASOLIN	NE RANGE				Analys	t: 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 RAM	IGE ORGANICS				Analyst	t: 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 SH	HORT LIST				Analyst	t: 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				

Qualifiers:	* D H ND	Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded Not Detected at the Reporting Limit	$\begin{bmatrix} A^B_E \end{bmatrix}$	Analyte detected in the associated Method Blank Value above quantitation range analyte detected below quantitation limits Sample pH Not In Range	
	PQL S	Practical Quanitative Limit % Recovery outside of range due to dilution or matrix	RL	Reporting Limit	Page 27 of 0

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# 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

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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	SWD Pipeline failed at a fused connection and leaked on pipeline ROW.		

ceived by OCD: 5/29/202	20 10:43:06 AM State of New Mexico	Page 92	
nin C-141		Incident ID	
ge 2		District RP	
		Facility ID	
		Application ID	
	1		
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 part The release was larger than 25 bbls.	rty consider this a major release?	
-	notice given to the OCD? By whom? To whom? What a structure of the OCD? By whom? To whom? What a structure of the structure o		

#### **Initial Response**

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

 $\boxtimes$  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:

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# 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?	<u>&gt;100</u> (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 <b>not</b> 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
- $\square$  Depth to water determination
- Determination of water sources and significant watercourses within <sup>1</sup>/<sub>2</sub>-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.

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regulations all operators public health or the envir failed to adequately inve- addition, OCD acceptance and/or regulations. Printed Name: _Robbi Signature:	nformation given above is true and complete are required to report and/or file certain releas onment. The acceptance of a C-141 report by stigate and remediate contamination that pose e of a C-141 report does not relieve the opera e Runnels	se notifications and perform c y the OCD does not relieve th a threat to groundwater, surfa ator of responsibility for comp Title: Environmental Date: _9/27/2019	orrective actions for rele e operator of liability sh ace water, human health liance with any other fe Representative	eases which may endanger ould their operations have or the environment. In deral, state, or local laws
email:runnels@me	wbourne.com	Telephone: _575-39	93-5905	
OCD Only Received by:		Date:		

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# **Remediation Plan**

<u>Remediation Plan Checklist</u>: 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  $\boxtimes$ 

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: <u>9/27/2019</u> 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:

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# 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: