

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

State of New Mexico  
Energy Minerals and Natural  
Resources Department

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

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

Incident ID	NRM2017527514
District RP	
Facility ID	
Application ID	

## 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 32.072178

Longitude -103.718811

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: RHWMS – Mesquite Paducah SWD	Site Type: Production
Date Release Discovered 6/18/2020	API# (if applicable)

Unit Letter	Section	Township	Range	County
L3	6	26S	32E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name: Baker)

### Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 50	Volume Recovered (bbls) 30
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release 6" gate valve developed a hole


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Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? The release was larger than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Notice was given to <b>Victoria Venegas on 6/19/2020 at 8:30 by email</b> from Robbie Runnels.	

### Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped.	
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: <u>Robbie Runnels</u>	Title: <u>Environmental Specialist</u>
Signature: 	Date: <u>6/19/2020</u>
email: <u>rrunnels@mewbourne.com</u>	Telephone: <u>575-393-5905</u>
<b><u>OCD Only</u></b>	
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>+ -105</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

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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: \_\_\_\_\_

email: \_runnels@mewbourne.com\_\_\_\_\_ Telephone: \_575-393-5905\_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

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

☐ 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.

Printed Name: Robbie Runnels Title: Environmental Specialist

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

email: [rrunnels@mewbourne.com](mailto:rrunnels@mewbourne.com) Telephone: 575-393-5905

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 Specialist

Signature:  Date: \_\_\_\_\_

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: \_\_\_\_\_

# Trinity Oilfield Services & Rentals, LLC

## Environmental Site Summary & Variance Request



**Company:** Mewbourne Oil Company **Address:** P.O. Box 2570, Hobbs, NM 88241 **Telephone #:** (575) 393-5905  
**Site Name:** RHWMS – Mesquite Paduca SWD **NMOCD Reference#:** NRM2017527514  
**Surface Owner:** Private (Name: Baker) **Mineral Owner:** Same  
**Unit Letter:** K, L3 **Section:** 6 **Township:** 26S **Range:** 32E **County:** Lea **GPS Coordinates:** 32.072178 N -103.718811 W  
**Date/Time of Release:** 6/18/2020 **Type of Release:** ☐ Crude Oil ☒ Produced Water  
**Volume(s) Released:** 50 bbls **Volume(s) Recovered:** 30 bbls

### Closure Criteria for Impacted Soil (mg/kg; See Appendix C, "Closure Criteria Justification"):

**Benzene:** 10 **BTEX:** 50 **GRO+DRO:** 1,000 **TPH:** ☐ 100 **Chloride:** ☐ 600  
☒ 2,500 ☐ 10,000  
☒ 20,000

### Background Information:

On June 18, 2020, Mewbourne Oil Company (Mewbourne) discovered a release at the Red Hills Water Management System (RHWMS) Mesquite Paduca Salt Water Disposal (SWD) facility. A hole developed in a 6-inch gate valve, resulting in the release of approximately 50 barrels (bbls) of produced water. During initial response activities, the gate valve was replaced, and a vacuum truck was utilized to recover approximately 30 bbls of free-standing liquid. The release affected a total area of pipeline right-of-way (ROW) and pasture measuring approximately 10,575 square feet.

The release was immediately reported to the New Mexico Oil Conservation Division's (NMOCD) Artesia District Office on June 19, 2020. The NMOCD "Release Notification & Corrective Action" form (C-141) is provided as Appendix A. A "Site Location Map" is provided as Figure 1.

### Summary of Field Activities:

On July 28, 2020, Trinity Oilfield Services & Rentals, LLC (Trinity), commenced remediation activities at the site. A chloride test kit and olfactory/visual senses were utilized to determine the horizontal extent of impacted soil and to guide the excavation. From July 29 through August 28, 2020, approximately 1,592 cubic yards of impacted soil was excavated and transported to R360 (NMOCD Permit #NM-01-00061), for disposal. Prior to disposal, excavated soil was stockpiled on-site on 6-mil plastic to prevent leaching of contaminants into the vadose zone.

From July 29 through July 30, 2020, a hand auger was utilized to advance a series of 26 boreholes (SP-1 through SP-26) at the site to further investigate the extent of impacted soil. The auger holes were advanced to total depths ranging from 2 to 3 feet below ground surface (bgs). Soil samples were collected at 1- to 2-foot vertical intervals and field-screened with a chloride test kit and olfactory/visual senses. Representative confirmation samples were submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, for analysis of chloride, total petroleum hydrocarbons (TPH), and benzene, toluene, ethylbenzene, and total xylene (BTEX) concentrations using Environmental Protection Agency (EPA) Methods 300.0, SW 846-8015 M/D, and SW 846-8021B, respectively. Laboratory analytical results and field-screens indicated additional delineation to determine the extent of impacted soil was required in some areas.

On July 29, 2020, ten (10) composite soil samples (SP-24 N. Wall, SP-24 S. Wall, SP-24 Floor, SP-25 N. Wall, SP-25 S. Wall, SP-25 Floor, SP-26 N. Wall, SP-26 S. Wall, SP-26 E. Wall, and SP-26 Floor) were collected from the floor and sidewalls of the excavation and submitted to the laboratory for analysis. Laboratory analytical results indicated TPH, BTEX, and chloride concentrations in all soil samples were below the NMOCD Closure Criteria established for the site.

On July 30, 2020, three (3) composite soil samples (SP-23 N. Wall, SP-23 S. Wall, and SP-23 Floor) were collected from the floor and sidewalls of the excavation and submitted to the laboratory for analysis. Laboratory analytical results indicated TPH, BTEX, and chloride concentrations in all soil samples were below the Closure Criteria established for the site.

# Trinity Oilfield Services & Rentals, LLC

## Environmental Site Summary & Variance Request



### Summary of Field Activities (cont.):

On July 31, 2020, twelve (12) composite soil samples (SP-19 N. Wall, SP-19 S. Wall, SP-19 Floor, SP-20 N. Wall, SP-20 S. Wall, SP-20 Floor, SP-21 N. Wall, SP-21 S. Wall, SP-21 Floor, SP-22 N. Wall, SP-22 S. Wall, and SP-22 Floor) were collected from the floor and sidewalls of the excavation and submitted to the laboratory for analysis. Laboratory analytical results indicated TPH, BTEX, and chloride concentrations in all soil samples were below the Closure Criteria established for the site.

On August 3, 2020, six (6) composite soil samples (SP-17 N. Wall, SP-17 S. Wall, SP-17 Floor, SP-18 N. Wall, SP-18 S. Wall, and SP-18 Floor) were collected from the floor and sidewalls of the excavation and submitted to the laboratory for analysis. A delineation sample (SP-26 @ 4.25') was also collected in the area represented by auger hole SP-26 to further investigate the extent of impacted soil. Laboratory analytical results indicated 1.) TPH, BTEX, and chloride concentrations in all soil samples were below the Closure Criteria established for the site and 2.) vertical delineation had been achieved in the area represented by auger hole SP-26 and composite soil sample SP-26 Floor.

On August 4, 2020, thirty-four (34) composite soil samples (SP-1 N. Wall, SP-1 E. Wall, SP-1 W. Wall, SP-1 Floor, SP-2 E. Wall, SP-2 W. Wall, SP-2 Floor, SP-3 E. Wall, SP-3 W. Wall, SP-3 Floor, SP-4 E. Wall, SP-4 W. Wall, SP-4 Floor, SP-5 E. Wall, SP-5 W. Wall, SP-5 Floor, SP-6 E. Wall, SP-6 W. Wall, SP-6 Floor, SP-7 E. Wall, SP-7 W. Wall, SP-7 Floor, SP-8 S. Wall, SP-8 E. Wall, SP-8 W. Wall, SP-8 Floor, SP-9 N. Wall, SP-9 S. Wall, SP-9 Floor, SP-16 N. Wall, SP-16 S. Wall, SP-16 W. Wall, SP-16 Floor, and SP-17 E. Wall) were collected from the floor and sidewalls of the excavation and submitted to the laboratory for analysis. Laboratory analytical results indicated 1.) the TPH and BTEX concentrations in all soil samples were below the Closure Criteria established for the site, and 2.) additional horizontal delineation and excavation was required in the areas represented by soil samples SP-1 N. Wall, SP-4 E. Wall, SP-6 E. Wall, and SP-8 S. Wall.

On August 5, 2020, nineteen (19) composite soil samples (SP-10 N. Wall, SP-10 E. Wall, SP-10 W. Wall, SP-10 Floor, SP-11 E. Wall, SP-11 W. Wall, SP-11 Floor, SP-12 E. Wall, SP-12 W. Wall, SP-12 Floor, SP-13 E. Wall, SP-13 W. Wall, SP-13 Floor, SP-14 E. Wall, SP-14 W. Wall, SP-14 Floor, SP-15 E. Wall, SP-15 W. Wall, and SP-15 Floor) were collected from the floor and sidewalls of the excavation and submitted to the laboratory for analysis. Laboratory analytical results indicated TPH, BTEX, and chloride concentrations in all soil samples were below the Closure Criteria established for the site.

On August 25, 2020, the excavation was advanced horizontally in the areas represented by soil samples SP-1 N. Wall, SP-4 E. Wall, SP-6 E. Wall, and SP-8 S. Wall. The excavation was advanced to the extent practicable based on the presence of active aboveground and buried pipelines and overhead power lines. Additional composite samples (SP-1 N. Wall, SP-4 E. Wall, SP-6 E. Wall, and SP-8 S. Wall) were collected from the sidewalls of the excavation and submitted to the laboratory for analysis. Laboratory analytical results indicated TPH, BTEX, and chloride concentrations in all soil samples were below the Closure Criteria established for the site.

On August 27 and 28, 2020, based on laboratory analytical results, the excavation in the areas represented by auger holes SP-9 through SP-26 was backfilled with locally acquired, non-impacted material, compacted, and contoured to match the surrounding topography.

Locations of the auger holes and composite soil samples are depicted in Figures 2A, 2B, and 2C. Laboratory analytical results are summarized in Table 1, and analytical reports are provided in Appendix D.

### Variance & Backfill Requests:

Soil samples collected from the impacted area were analyzed by an NMOCD-approved laboratory, and concentrations of chloride, TPH, and BTEX were below the Closure Criteria listed in Table I of Section 19.15.29.12 of the New Mexico Administrative Code (NMAC) for a site where depth to groundwater is greater than 100 feet (see Appendix C, "Closure Criteria Justification", for more information). However, the chloride concentrations in soil samples SP-2 Floor, SP-3 Floor, SP-4 Floor, and SP-7 Floor are over the 600 mg/kg limit specified in Section 19.15.29.13.D(1) NMAC. The excavation in these areas was advanced vertically to 3 feet bgs, which was the extent practicable due to the presence of a hard rock layer running underneath the site. Excavation into the rock layer is not possible without specialized equipment. In addition, these areas are in the middle of an active pipeline ROW, and further delineation and excavation was deemed

# Trinity Oilfield Services & Rentals, LLC

## Environmental Site Summary & Variance Request



### Variance & Backfill Requests (cont.):

impracticable due to safety and environmental concerns associated with the presence of active aboveground and buried pipelines and overhead power lines.

Trinity utilized the EPA's Multimedia Exposure Assessment Model (MULTIMED) to determine if the contamination remaining in-situ poses a threat to groundwater quality. Using the most conservative parameters possible for the site in regard to depth to water (150 feet), soil porosity (0.25), time (500 years), no liner, etc., the MULTIMED model indicated that the contamination will not impact groundwater (see Appendix E).

On October 1, 2020, Trinity conducted a survey of the vegetation at the site. Aside from noxious weeds (African Rue and Purple Nightshade), the only beneficial/non-invasive species of vegetation identified in the areas represented by soil samples SP-2 Floor, SP-3 Floor, SP-4 Floor, and SP-7 Floor was Broom Snakeweed, which has a shallow root zone of approximately 18 to 20 inches, similar to other perennial grasses.

Based on the information above, pursuant to Section 19.15.29.12.C(2) NMAC, leaving the contamination in-situ "does not cause an imminent risk to human health, the environment, or ground water". Therefore, Trinity, on behalf of Mewbourne, hereby requests 1.) a variance from the requirements of Sections 19.15.29.12.C(3) and 19.15.29.13.D(1) NMAC, and 2.) permission to cease remediation activities at the site and backfill the excavation. Upon NMOCD approval of these requests, the excavation will be backfilled with locally acquired, non-impacted material. Following backfilling, a comprehensive "Remediation Summary & Site Closure Request" will be submitted to the NMOCD.

### Enclosures:

Figure 1: Site Location Map

Figure 2A: Sample Location Map (SP-1 to SP-8)

Figure 2B: Sample Location Map (SP-9 to SP-16)

Figure 2C: Sample Location Map (SP-17 to SP-26)

Table 1: Concentrations of Benzene, BTEX, TPH & Chloride in Soil

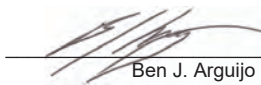
Appendix A: Release Notification & Corrective Action (Form C-141)

Appendix B: Photographs

Appendix C: Closure Criteria Justification

Appendix D: Laboratory Analytical Results

Appendix E: Multimedia Exposure Assessment Model (MULTIMED)

 10/22/2020  
Ben J. Arguijo  
Project Manager

# Figures



**Figure 1**  
**Site Location Map**  
**Mewbourne Oil Company**  
**RHWMS – Mesquite Paduca SWD**  
**Lea County, New Mexico**  
**NMOCD Reference #: NRM2017527514**



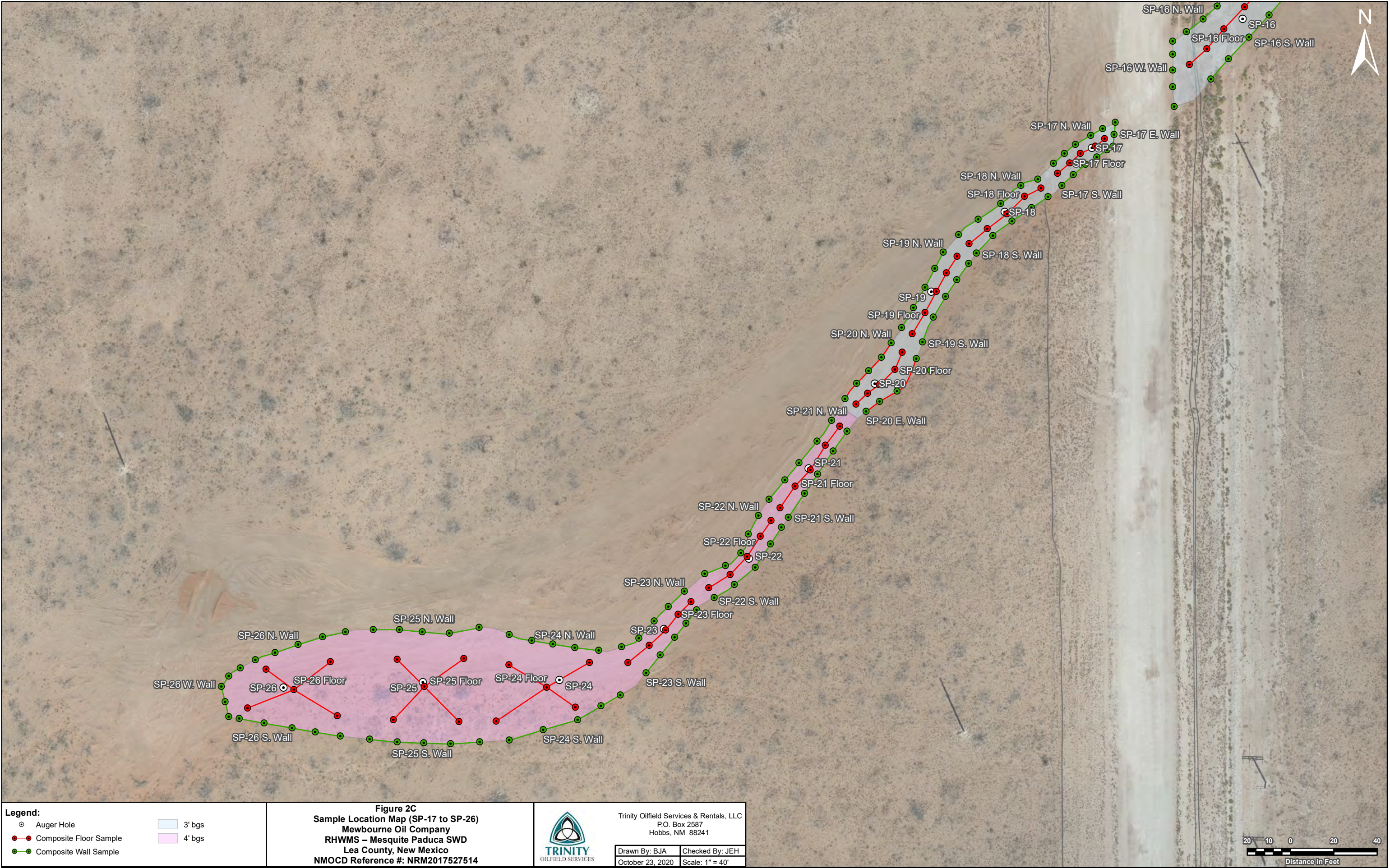
Trinity Oilfield Services & Rentals, LLC  
P.O. Box 2587  
Hobbs, NM 88241

Drawn By: BJA	Checked By: JEH
August 26, 2020	Scale: 1" = 0.5mi

0.5 0.25 0 0.5  
Distance in Miles







# Tables

TABLE 1  
CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

MEWBOURNE OIL COMPANY  
RHWMS – MESQUITE PADUCA SWD  
LEA COUNTY, NEW MEXICO  
NMOCD REFERENCE #: NRM2017527514



SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SAMPLE TYPE	SOIL STATUS	EPA SW-846 Method 8021B					EPA SW-846 Method 8015M/D					EPA 300.0
					BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL- BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)	TOTAL BTEX (mg/kg)	GRO C6-C12 (mg/kg)	DRO C12-C28 (mg/kg)	GRO+ DRO (mg/kg)	MRO C28-C35 (mg/kg)	TPH C6-C35 (mg/kg)	CHLORIDE (mg/kg)
NMOCD Closure Limits					10	NE	NE	NE	50	NE	NE	1,000	NE	2,500	20,000
SP-1 @ Surface	Surface	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	7,800	7,800	7,000	14,800	17,000
SP-1 @ 3'	3'	7/29/2020	Grab	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	360
SP-1 N. Wall	1.5' - 2'	8/4/2020	Composite	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	740
SP-1 E. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200
SP-1 W. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	160
SP-1 Floor	3'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	380
SP-2 @ Surface	Surface	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	5,800	5,800	5,300	11,100	15,000
SP-2 @ 2'	2'	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	370
SP-2 E. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	220
SP-2 W. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	170
SP-2 Floor	3'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,400
SP-3 @ Surface	Surface	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	7,200	7,200	6,400	13,600	16,000
SP-3 @ 2'	2'	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	380
SP-3 E. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	150
SP-3 W. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	180
SP-3 Floor	3'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,600
SP-4 @ Surface	Surface	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	8,900	8,900	7,800	16,700	14,000
SP-4 @ 2'	2'	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,300
SP-4 E. Wall	1.5' - 2'	8/4/2020	Composite	Excavated	ND	ND	ND	ND	ND	ND	23.0	23.0	ND	23.0	3,000
SP-4 W. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	570
SP-4 Floor	3'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,600
SP-5 @ Surface	Surface	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9,400
SP-5 @ 2'	2'	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	270
SP-5 E. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	380
SP-5 W. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	450
SP-5 Floor	3'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	220
SP-6 @ Surface	Surface	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12,000
SP-6 @ 3'	3'	7/29/2020	Grab	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	290
SP-6 E. Wall	1.5' - 2'	8/4/2020	Composite	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	770
SP-6 W. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	550
SP-6 Floor	3'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	410
SP-7 @ Surface	Surface	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17,000
SP-7 @ 3'	3'	7/29/2020	Grab	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	310
SP-7 E. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	570
SP-7 W. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	460
SP-7 Floor	3'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,800

NE = Not Established

ND = Not Detected

Concentrations in **BOLD** exceed the NMOCD Closure Limit

TABLE 1  
CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

MEWBOURNE OIL COMPANY  
RHWMS - MESQUITE PADUCA SWD  
LEA COUNTY, NEW MEXICO  
NMOCD REFERENCE #: NRM2017527514



SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SAMPLE TYPE	SOIL STATUS	EPA SW-846 Method 8021B					EPA SW-846 Method 8015M/D					EPA 300.0
					BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL-BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)	TOTAL BTEX (mg/kg)	GRO C6-C12 (mg/kg)	DRO C12-C28 (mg/kg)	GRO+ DRO C28-C35 (mg/kg)	MRO C28-C35 (mg/kg)	TPH C6-C35 (mg/kg)	CHLORIDE (mg/kg)
NMOCD Closure Limits					10	NE	NE	NE	50	NE	NE	1,000	NE	2,500	20,000
SP-8 @ Surface	Surface	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17,000
SP-8 @ 2'	2'	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	310
SP-8 S. Wall	1.5' - 2'	8/4/2020	Composite	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,200
SP-8 E. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	410
SP-8 W. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	570
SP-8 Floor	3'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	550
SP-9 @ Surface	Surface	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7,300
SP-9 @ 2'	2'	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	390
SP-9 N. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	140
SP-9 S. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	150
SP-9 Floor	3'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	440
SP-10 @ Surface	Surface	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14,000
SP-10 @ 3'	3'	7/29/2020	Grab	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	420
SP-10 N. Wall	1.5' - 2'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	89.0
SP-10 E. Wall	1.5' - 2'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	62.0
SP-10 W. Wall	1.5' - 2'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	72.0
SP-10 Floor	3'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	390
SP-11 @ Surface	Surface	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14,000
SP-11 @ 2'	2'	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	440
SP-11 E. Wall	1.5' - 2'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	79.0
SP-11 W. Wall	1.5' - 2'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	66.0
SP-11 Floor	3'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	450
SP-12 @ Surface	Surface	7/29/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12,000
SP-12 @ 3'	3'	7/29/2020	Grab	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	470
SP-12 E. Wall	1.5' - 2'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	480
SP-12 W. Wall	1.5' - 2'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	180
SP-12 Floor	3'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	330
SP-13 @ Surface	Surface	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9,400
SP-13 @ 3'	3'	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,700
SP-13 E. Wall	1.5' - 2'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	350
SP-13 W. Wall	1.5' - 2'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	450
SP-13 Floor	3'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	470
SP-14 @ Surface	Surface	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7,300
SP-14 @ 3'	3'	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,400
SP-14 E. Wall	1.5' - 2'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	280
SP-14 W. Wall	1.5' - 2'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	160
SP-14 Floor	3'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	370

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ND = Not Detected

Concentrations in **BOLD** exceed the NMOCD Closure Limit

TABLE 1  
CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

MEWBOURNE OIL COMPANY  
RHWMS - MESQUITE PADUCA SWD  
LEA COUNTY, NEW MEXICO  
NMOCD REFERENCE #: NRM2017527514



SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SAMPLE TYPE	SOIL STATUS	EPA SW-846 Method 8021B					EPA SW-846 Method 8015M/D					EPA 300.0
					BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL-BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)	TOTAL BTEX (mg/kg)	GRO C6-C12 (mg/kg)	DRO C12-C28 (mg/kg)	GRO+ DRO (mg/kg)	MRO C28-C35 (mg/kg)	TPH C6-C35 (mg/kg)	CHLORIDE (mg/kg)
NMOCD Closure Limits					10	NE	NE	NE	50	NE	NE	1,000	NE	2,500	20,000
SP-15 @ Surface	Surface	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8,400
SP-15 @ 3'	3'	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,500
SP-15 E. Wall	1.5' - 2'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	360
SP-15 W. Wall	1.5' - 2'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	150
SP-15 Floor	3'	8/5/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	350
SP-16 @ Surface	Surface	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20,000
SP-16 @ 3'	3'	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,100
SP-16 N. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	150
SP-16 S. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	150
SP-16 W. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	280
SP-16 Floor	3'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	13.0	13.0	91.0	104	100
SP-17 @ Surface	Surface	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22,000
SP-17 @ 3'	3'	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,400
SP-17 N. Wall	1.5' - 2'	8/3/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-17 S. Wall	1.5' - 2'	8/3/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-17 E. Wall	1.5' - 2'	8/4/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	250
SP-17 Floor	3'	8/3/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-18 @ Surface	Surface	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20,000
SP-18 @ 3'	3'	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,400
SP-18 N. Wall	1.5' - 2'	8/3/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-18 S. Wall	1.5' - 2'	8/3/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-18 Floor	3'	8/3/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-19 @ Surface	Surface	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17,000
SP-19 @ 3'	3'	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,400
SP-19 N. Wall	1.5' - 2'	7/31/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	110
SP-19 S. Wall	1.5' - 2'	7/31/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	93.0
SP-19 Floor	3'	7/31/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	170
SP-20 @ Surface	Surface	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19,000
SP-20 @ 2'	2'	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	480
SP-20 N. Wall	1.5' - 2'	7/31/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	190
SP-20 S. Wall	1.5' - 2'	7/31/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	170
SP-20 Floor	3'	7/31/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	180
SP-21 @ Surface	Surface	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16,000
SP-21 @ 2'	2'	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,400
SP-21 N. Wall	2.5'	7/31/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	96.0
SP-21 S. Wall	2.5'	7/31/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	190
SP-21 Floor	4'	7/31/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	180

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ND = Not Detected

Concentrations in **BOLD** exceed the NMOCD Closure Limit

TABLE 1  
CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

MEWBOURNE OIL COMPANY  
RHWMS – MESQUITE PADUCA SWD  
LEA COUNTY, NEW MEXICO  
NMOCD REFERENCE #: NRM2017527514



SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SAMPLE TYPE	SOIL STATUS	EPA SW-846 Method 8021B					EPA SW-846 Method 8015M/D					EPA 300.0
					BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL-BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)	TOTAL BTEX (mg/kg)	GRO C6-C12 (mg/kg)	DRO C12-C28 (mg/kg)	GRO+ DRO (mg/kg)	MRO C28-C35 (mg/kg)	TPH C6-C35 (mg/kg)	CHLORIDE (mg/kg)
NMOCD Closure Limits					10	NE	NE	NE	50	NE	NE	1,000	NE	2,500	20,000
SP-22 @ Surface	Surface	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22,000
SP-22 @ 2'	2'	7/30/2020	Grab	Excavated	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	350
SP-22 N. Wall	2.5'	7/31/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	93.0
SP-22 S. Wall	2.5'	7/31/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	120
SP-22 Floor	4'	7/31/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	87.0
SP-23 N. Wall	2.5'	7/30/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-23 S. Wall	2.5'	7/30/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-23 Floor	4'	7/30/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-24 N. Wall	2.5'	7/29/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-24 S. Wall	2.5'	7/29/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-24 Floor	4'	7/29/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-25 N. Wall	2.5'	7/29/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-25 S. Wall	2.5'	7/29/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-25 Floor	4'	7/29/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	77.0
SP-26 @ 4.25'	4.25'	8/3/2020	Grab	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	81.0
SP-26 N. Wall	2.5'	7/29/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-26 S. Wall	2.5'	7/29/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-26 W. Wall	2.5'	7/29/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-26 Floor	4'	7/29/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,300
SP-1 N. Wall	1.5' - 2'	8/25/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	300
SP-4 E. Wall	1.5' - 2'	8/25/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	600
SP-6 E. Wall	1.5' - 2'	8/25/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	290
SP-8 S. Wall	1.5' - 2'	8/25/2020	Composite	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	320

NE = Not Established

ND = Not Detected

Concentrations in **BOLD** exceed the NMOCD Closure Limit

# Appendices

# **Appendix A**

## **Release Notification & Corrective Action (Form C-141)**

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

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

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

Incident ID	NRM2017527514
District RP	
Facility ID	
Application ID	

## 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 32.072178

Longitude -103.718811

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: RHWMS – Mesquite Paduca SWD	Site Type: Production
Date Release Discovered 6/18/2020	API# (if applicable)

Unit Letter	Section	Township	Range	County
K, L3	6	26S	32E	Eddy

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name: Baker)

### Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 50	Volume Recovered (bbls) 30
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)


Cause of Release 6" gate valve developed a hole

Incident ID	NRM2017527514
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? The release was larger than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Notice was given to <b>Victoria Venegas on 6/19/2020 at 8:30 AM by email</b> from Robbie Runnels.	

## Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped.	
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: <u>Robbie Runnels</u>	Title: <u>Environmental Specialist</u>
Signature: 	Date: <u>6/19/2020</u>
email: <u>rrunnels@mewbourne.com</u>	Telephone: <u>575-393-5905</u>
<b><u>OCD Only</u></b>	
Received by: <u>Ramona Marcus</u>	Date: <u>6/23/2020</u>

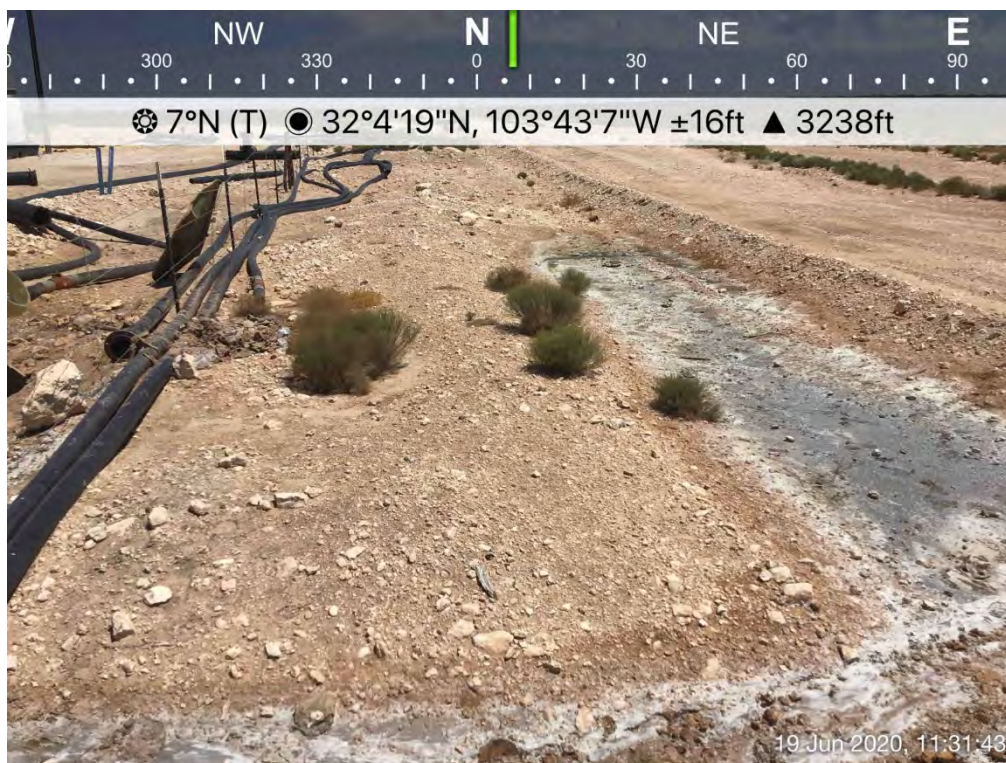
# **Appendix B Photographs**

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Release Point



Release

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Release



Release

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Release



Release

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Release



Release

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Release



Release

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



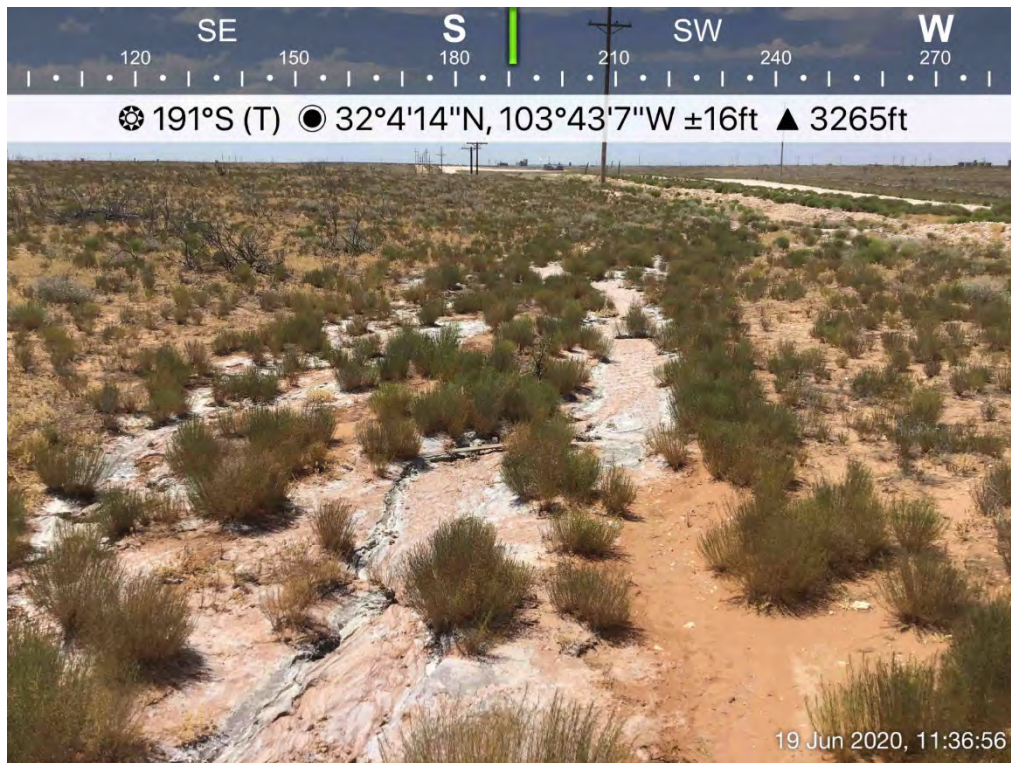
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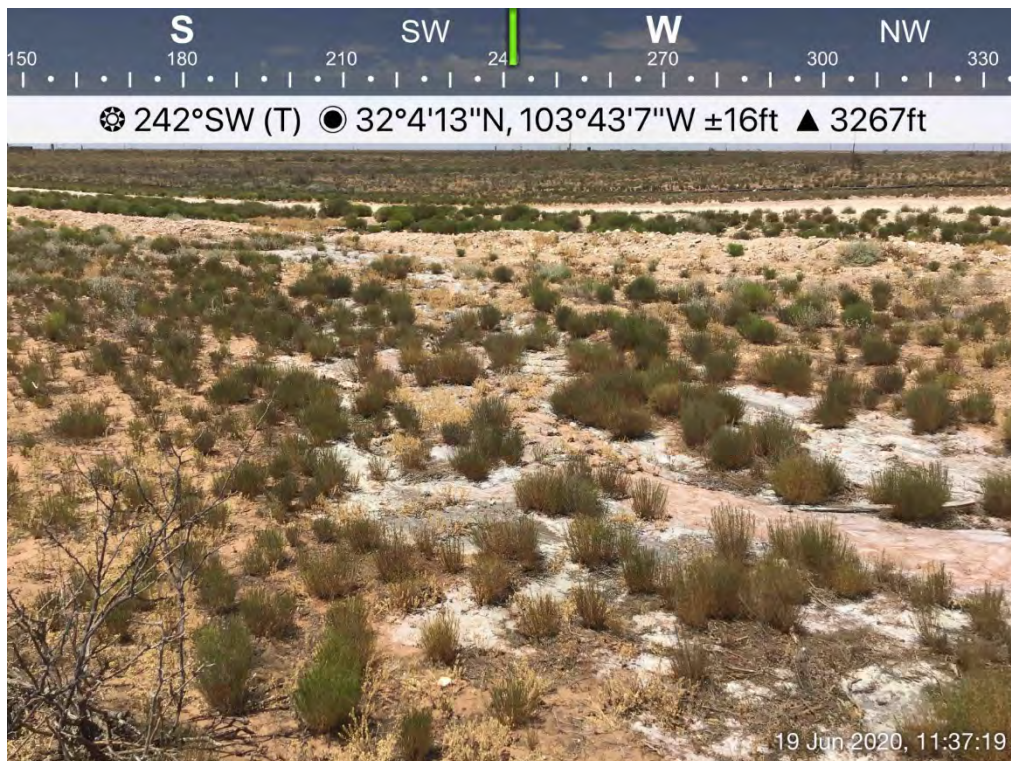
Release

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Release



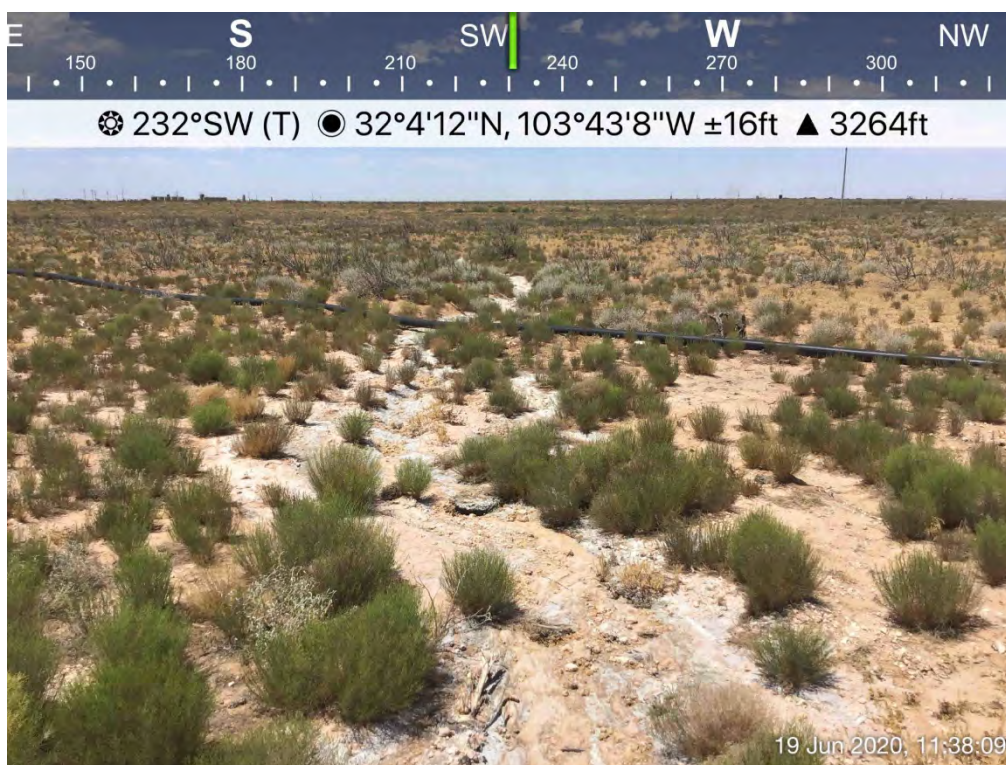
Release

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



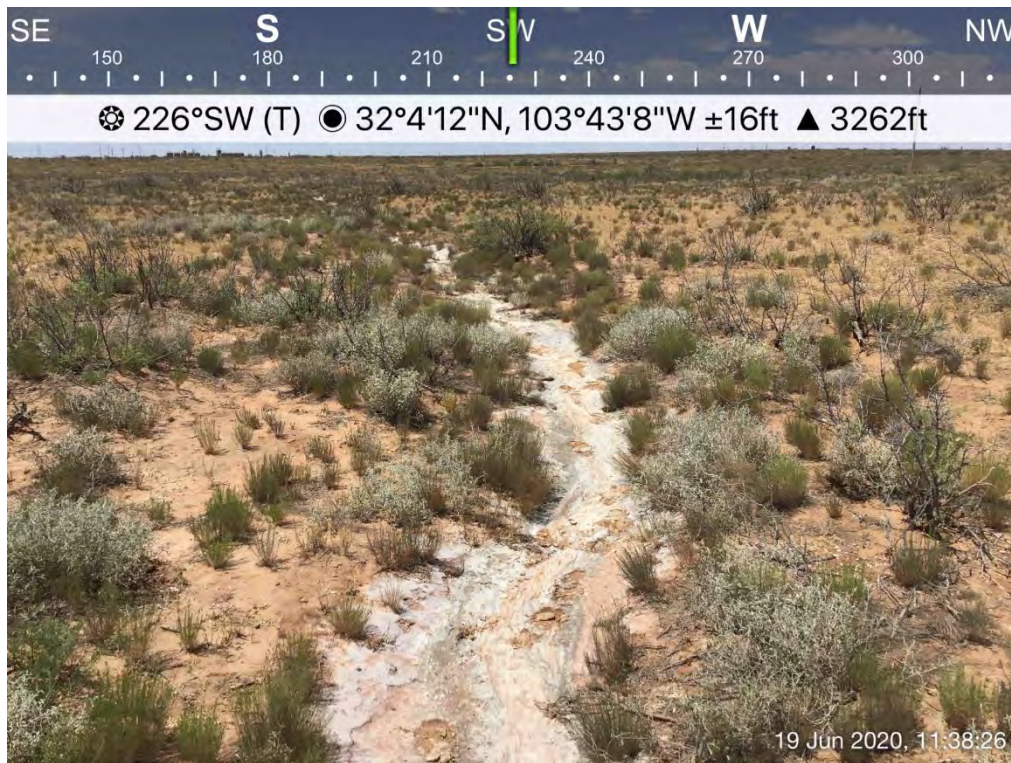
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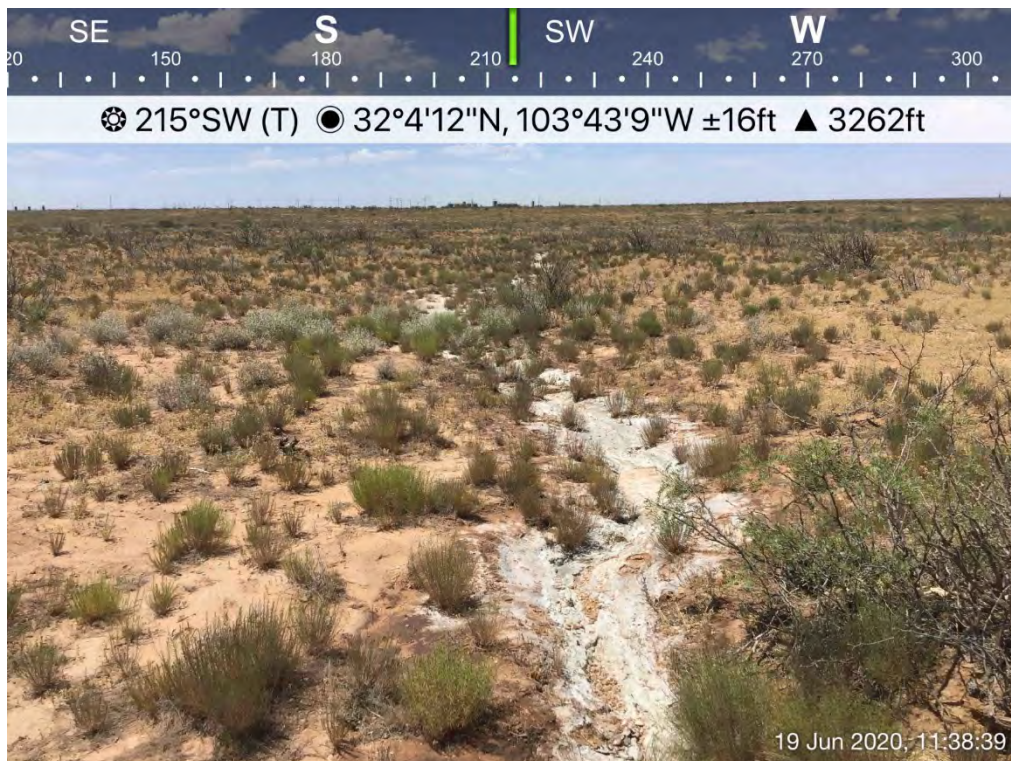
Release

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



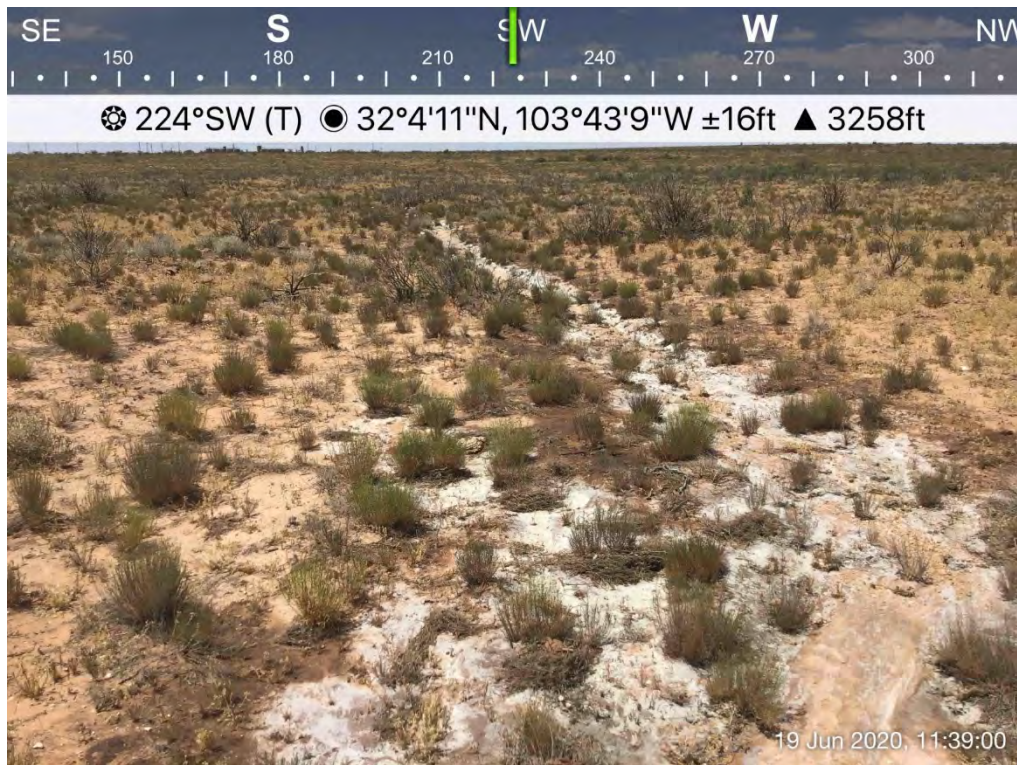
Release



Release

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



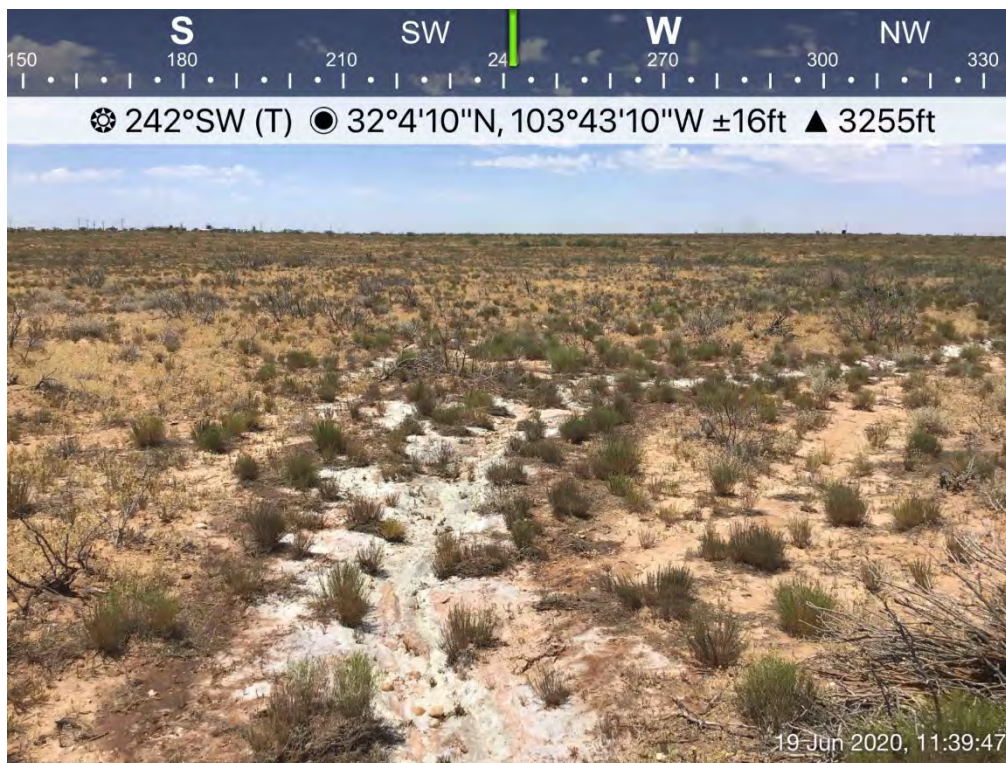
Release



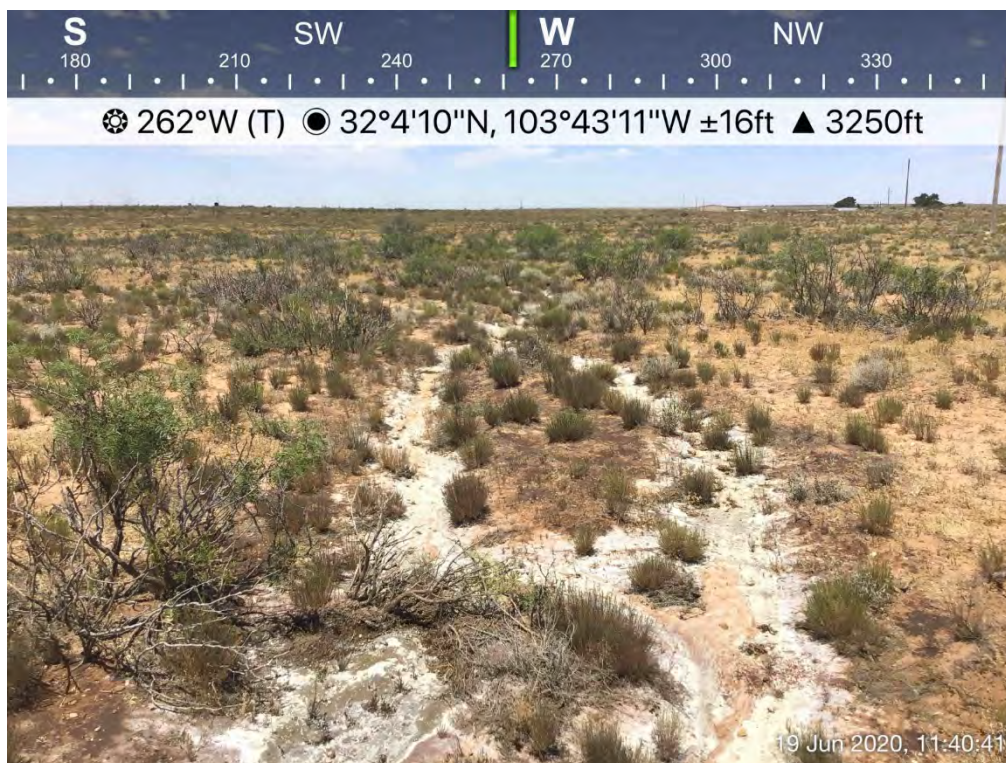
Release

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



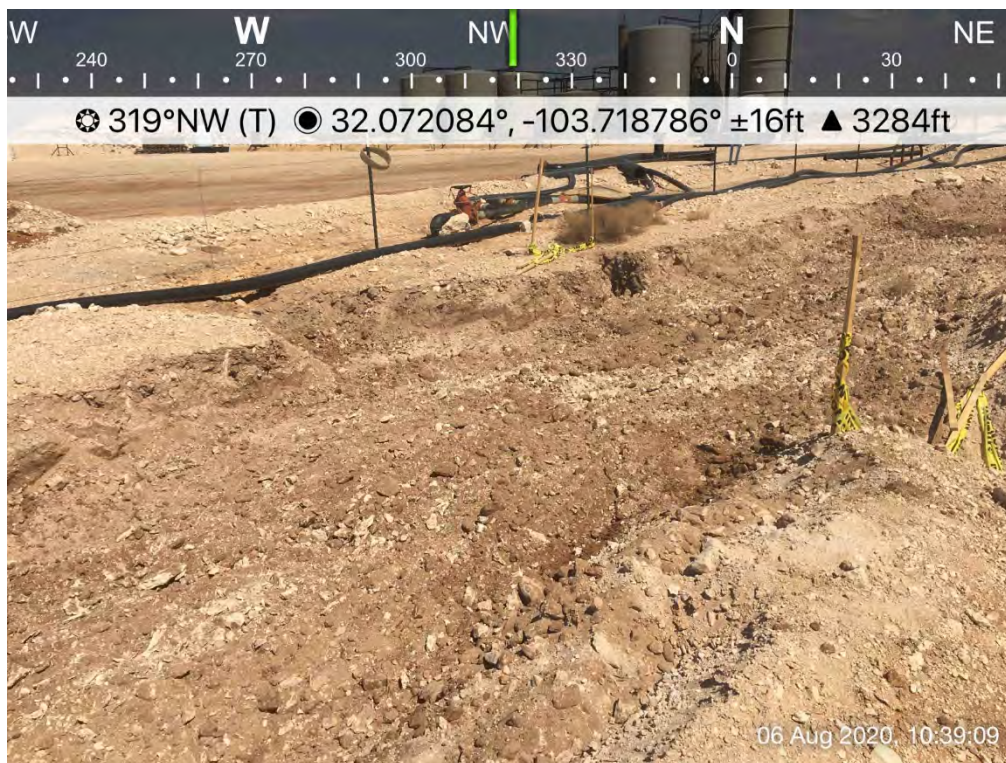
Release



Release

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



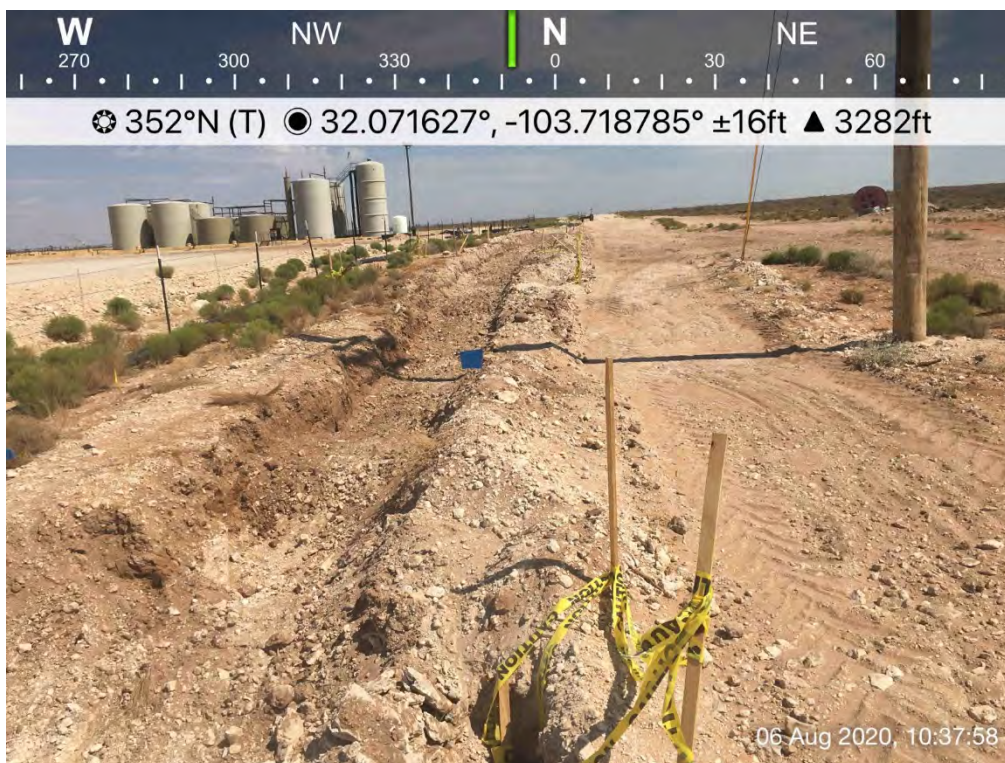
Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



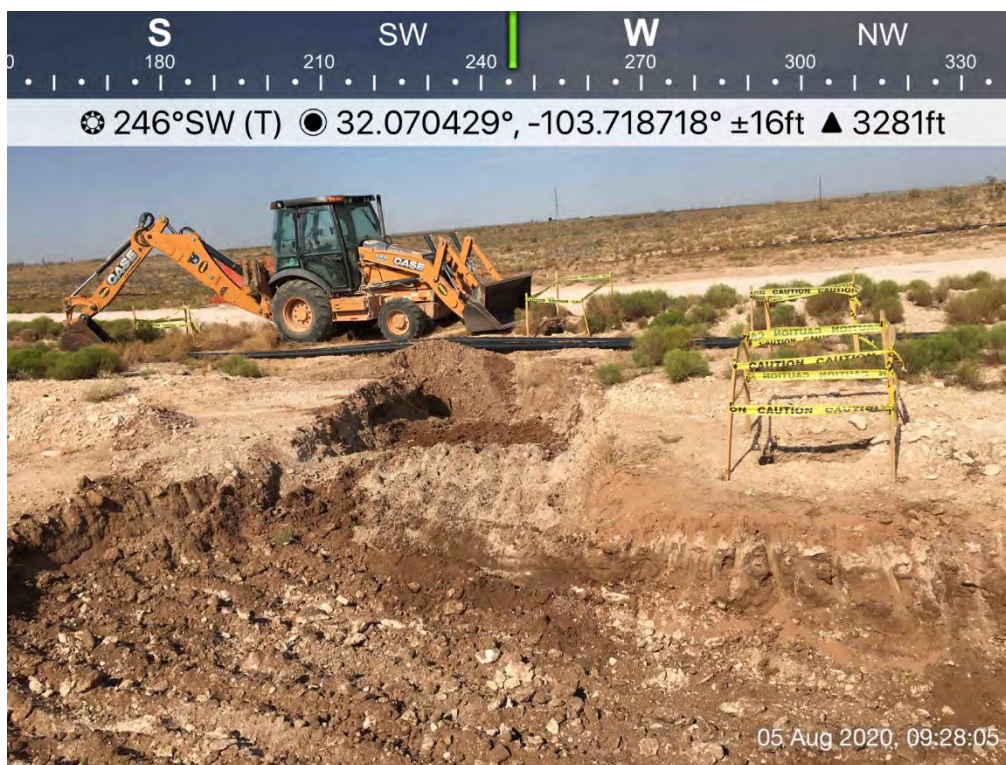
Excavation



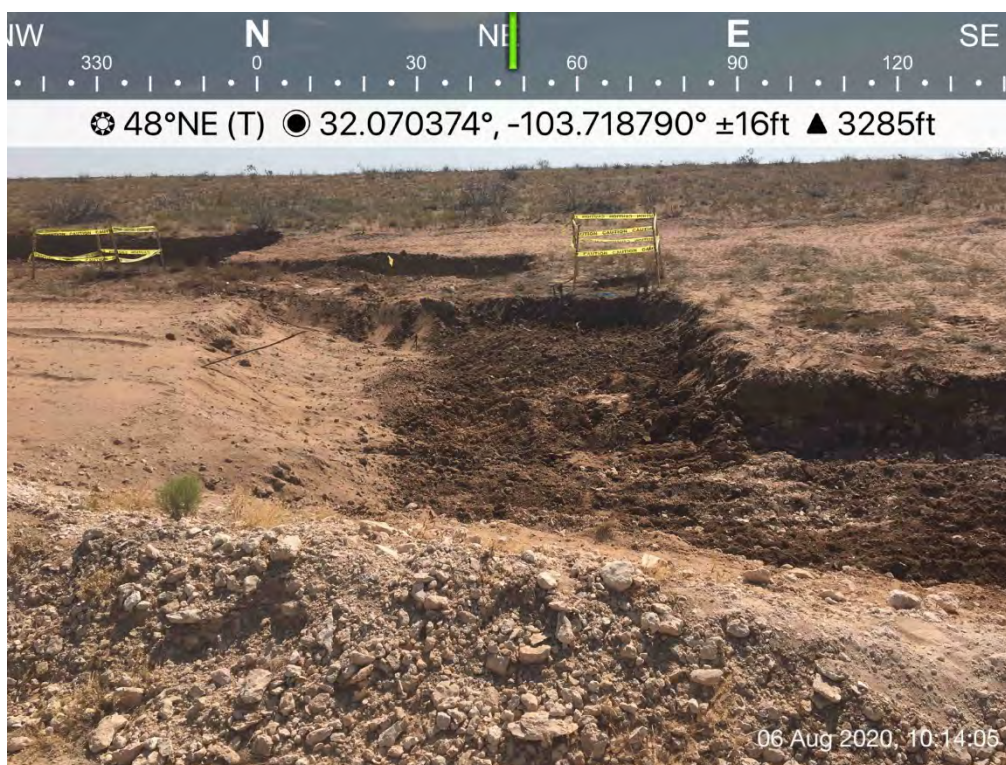
Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



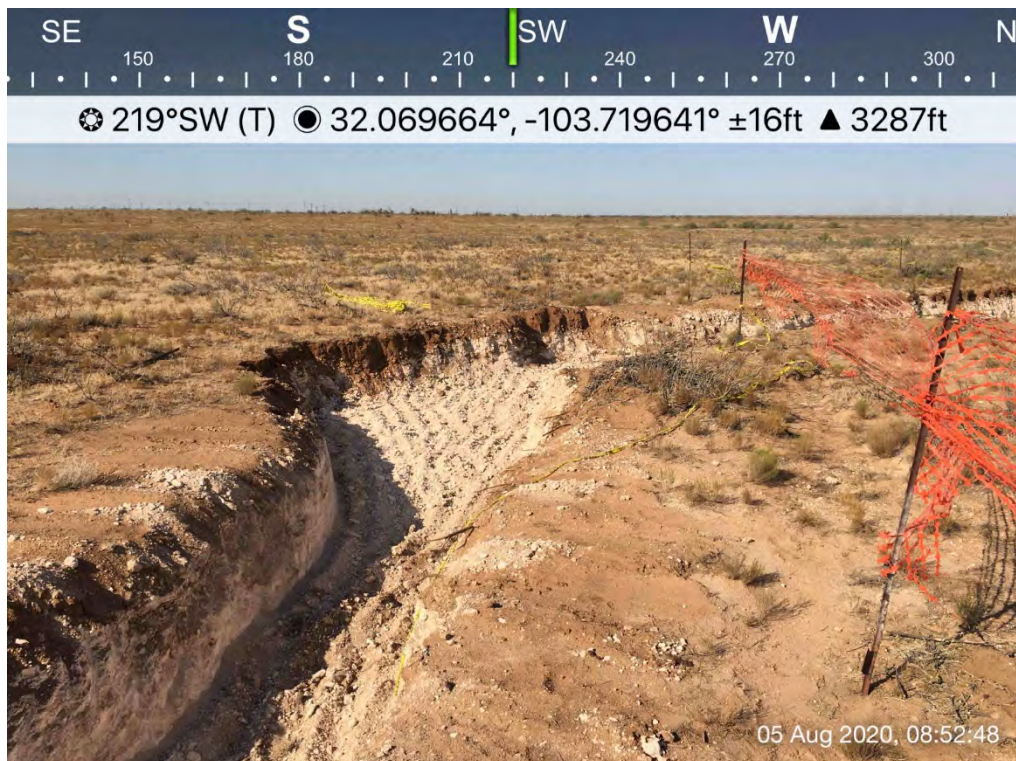
Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



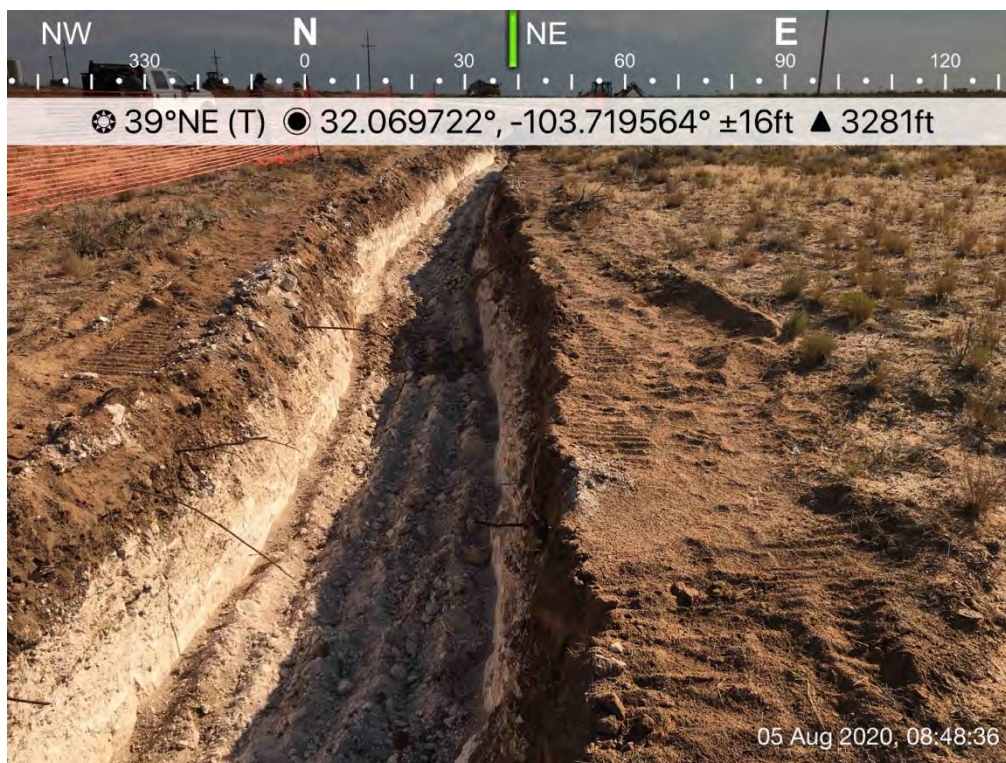
Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



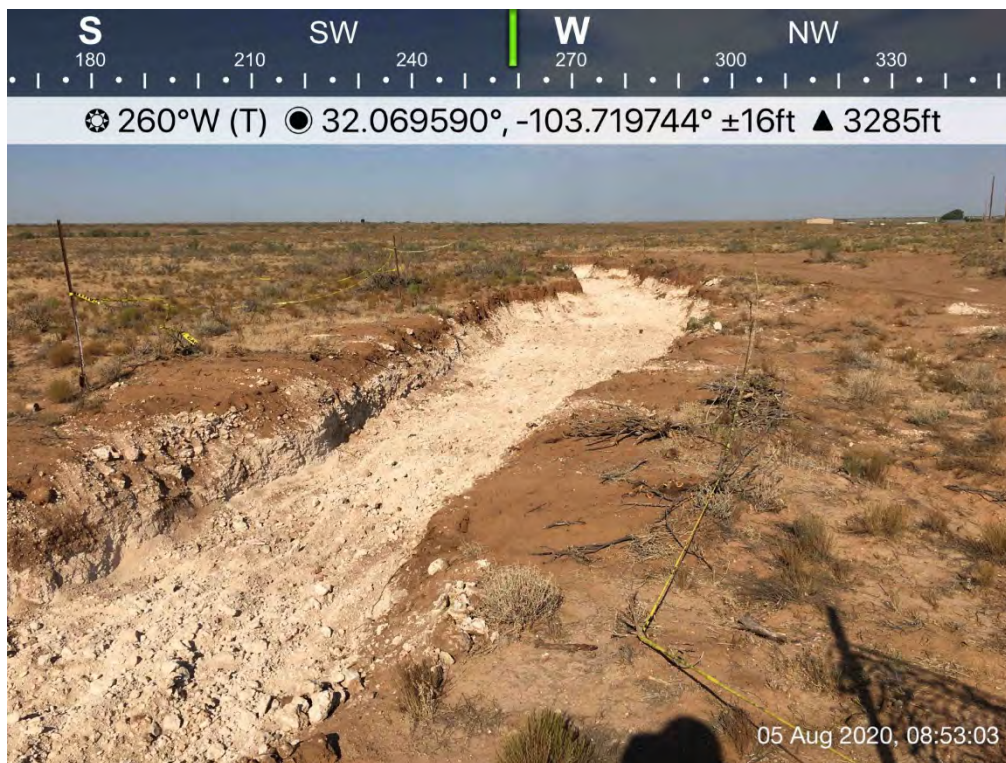
Excavation



Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E

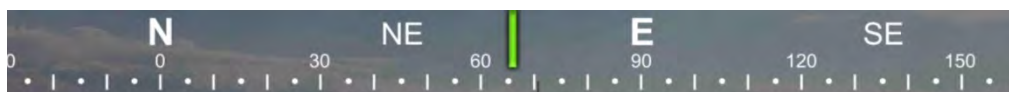


☀ 91°E (T) ● 32.069546°, -103.720115° ±16ft ▲ 3307ft



05 Aug 2020, 08:45:48

Excavation



☀ 66°NE (T) ● 32.069533°, -103.720193° ±16ft ▲ 3286ft

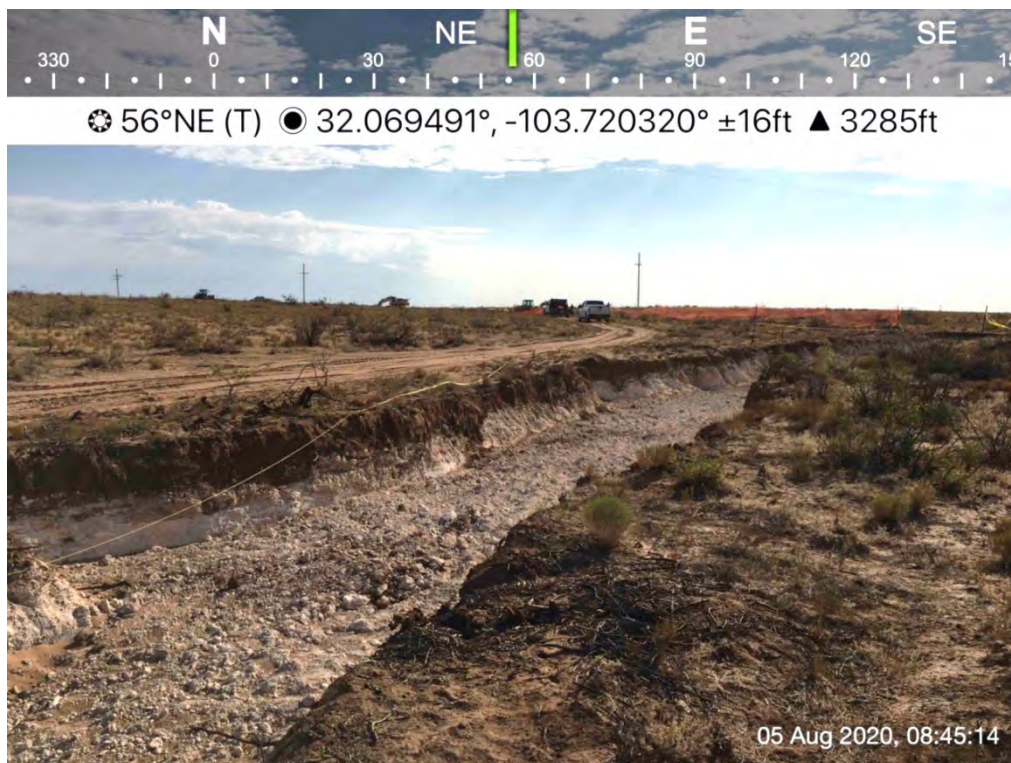


05 Aug 2020, 08:45:35

Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



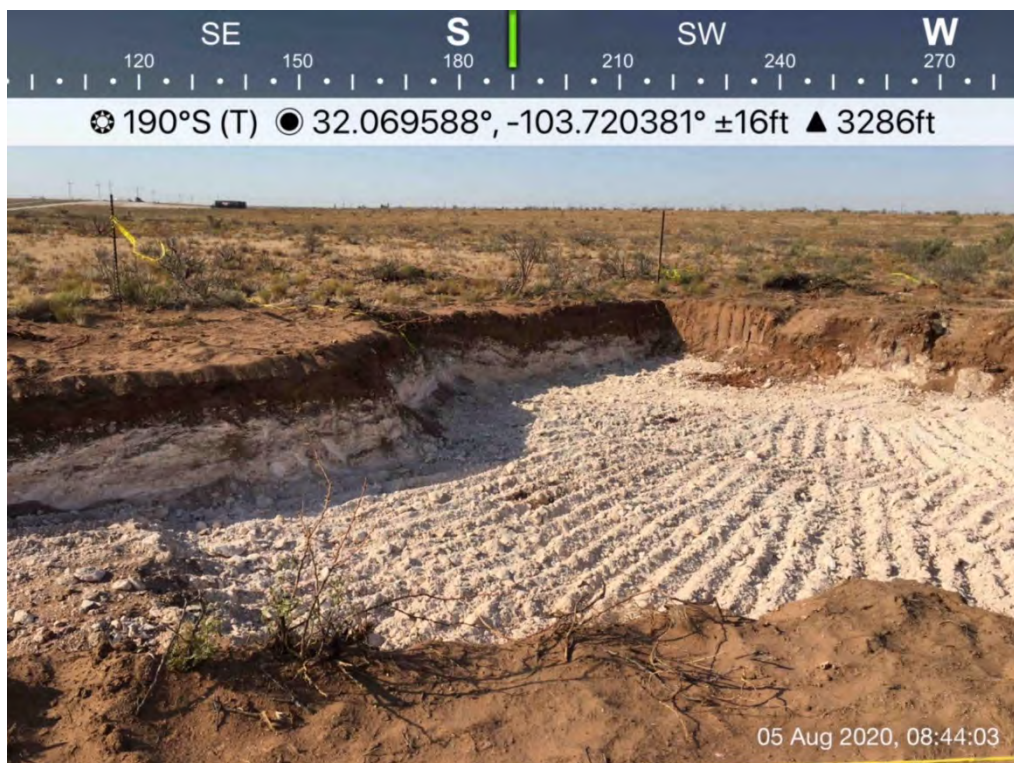
Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



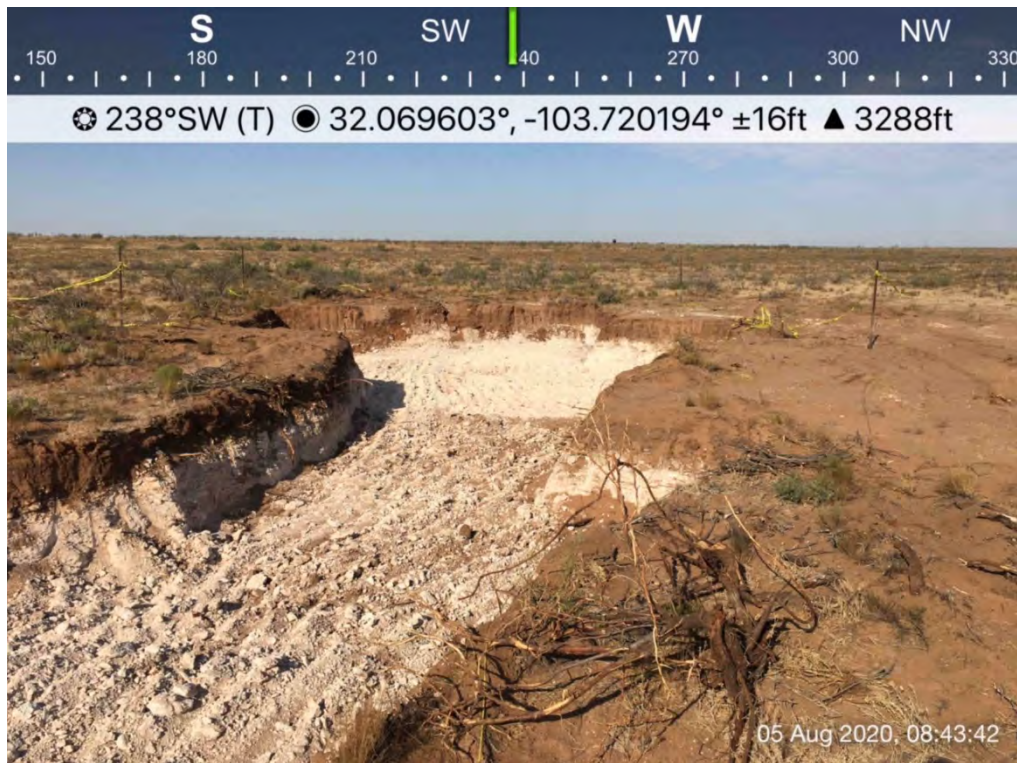
Excavation



Excavation

**Mewbourne Oil Company – RHWMS - Mesquite Paduca SWD**

Unit K/L3, Section 6, Township 26S, Range 32E



Excavation



Excavation

# **Appendix C**

## **Closure Criteria Justification**

**TABLE 2  
CLOSURE CRITERIA JUSTIFICATION**

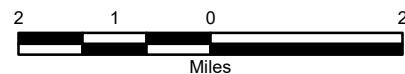
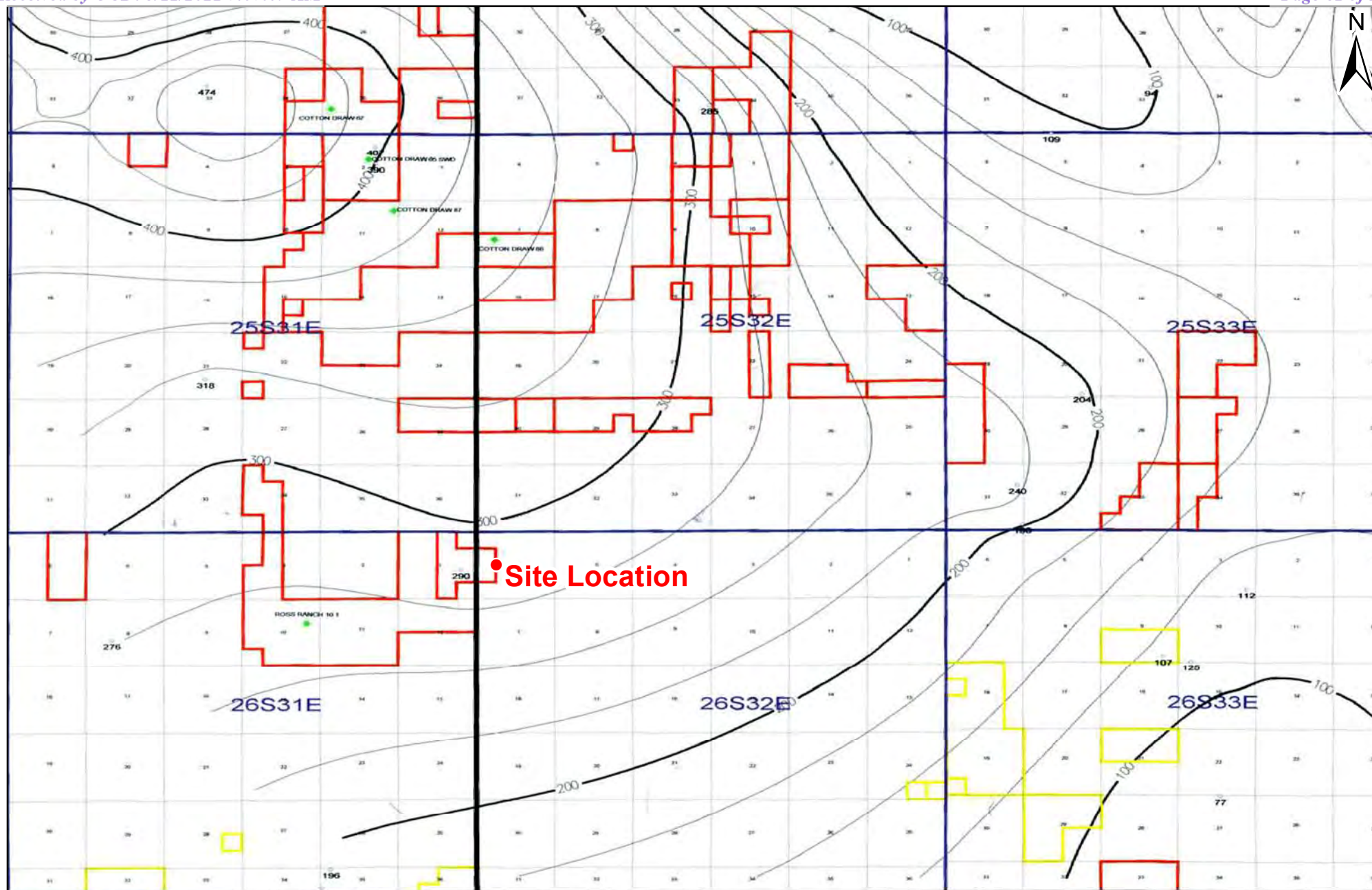
**MEWBOURNE OIL COMPANY  
RHWMS – MESQUITE PADUCA SWD  
LEA COUNTY, NEW MEXICO  
NMOCD REFERENCE #: NRM2017527514**



Groundwater, Water Wells & Other Water Sources	
Depth to groundwater (ft)?	280 - 290
Horizontal distance (ft) from all water sources within 0.5 miles?	985 - 2,530
Within 500' of a spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?	No
Within 1,000' of any fresh water well or spring?	No
Surface Water	
Horizontal distance (ft) to nearest significant watercourse?	>1,000
Within 300' of any continuously flowing watercourse or any other significant watercourse?	No
Within 200' of any lakebed, sinkhole or playa lake?	No
Human-Occupied, Environmental & Other Areas	
Within incorporated municipal boundaries or within a defined municipal fresh water well field?	No
Within 300' of an occupied permanent residence, school, hospital, institution or church?	No
Within 300' of a wetland?	No
Within the area overlying a subsurface mine?	No
Within an unstable area?	No
Within a 100-year floodplain?	No

Closure Criteria (mg/kg)*				
Benzene	BTEX	GRO + DRO	TPH	Chloride
10	50	1,000	2,500	20,000

\*Numerical limits or natural background level, whichever is greater

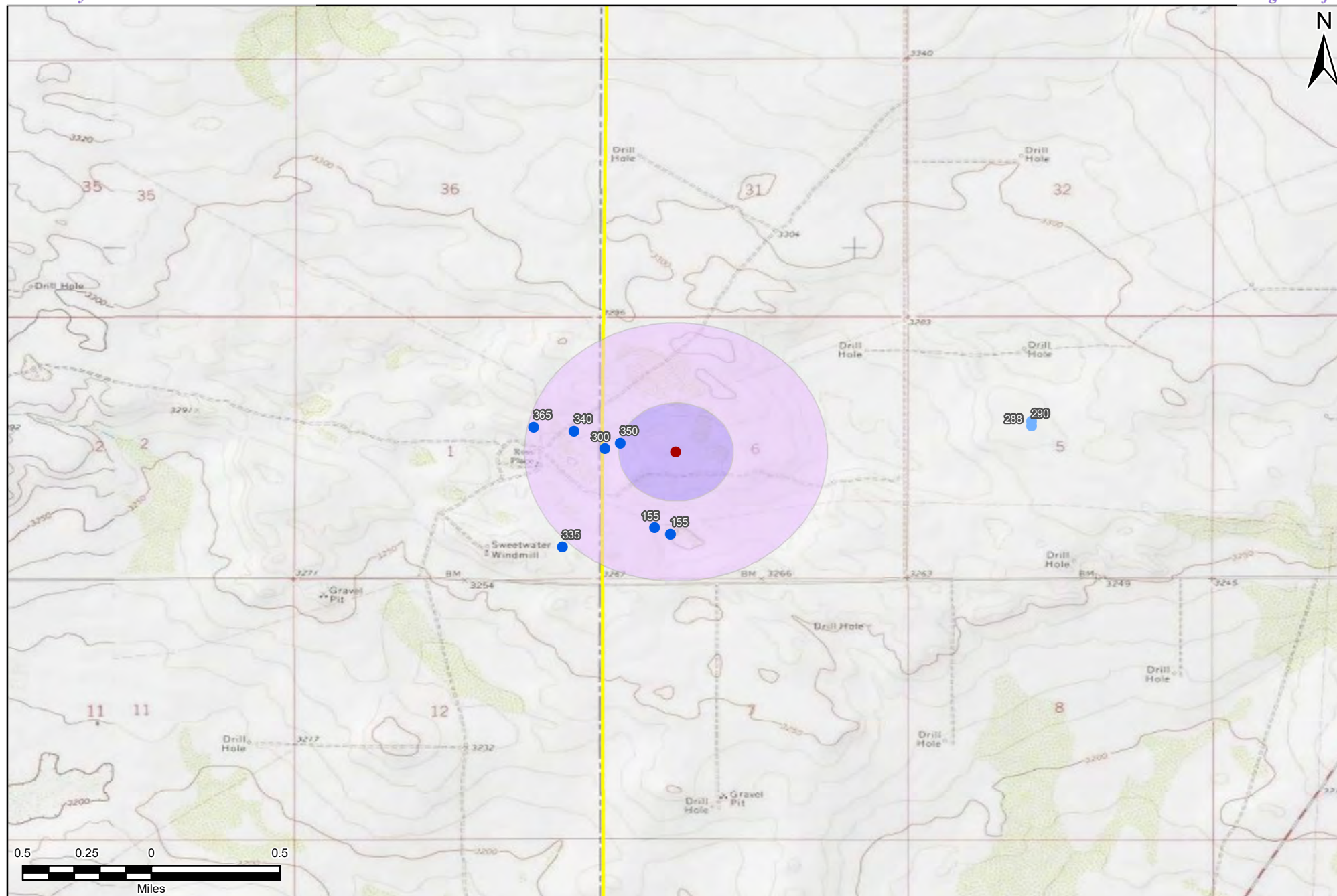


**Figure 3**  
**Depth-to-Groundwater Trend Map**  
 Mewbourne Oil Company  
 RHWMS - Mequite Paduca SWD  
 Lea County, New Mexico  
 NMOCD Reference #: NRM2017527514



Trinity Oilfield Services & Rentals, LLC  
 P.O. Box 2587  
 Hobbs, NM 88241

Drawn By: BJA	Checked By: JEH
August 26, 2020	Scale: 1" = 2mi

**Legend**

- 1,000-ft Radius
- 0.5-mi Radius
- FEMA 100-Year Flood Zone
- Municipal Boundary
- Site Location
- NMOSE Depth to Water (ft)
- USGS Depth to Water (ft Avg.)

**Figure 4**  
**Vicinity & Wellhead Protection Area Map**  
**Mewbourne Oil Company**  
**RHWMS - Mequite Paduca SWD**  
**Lea County, New Mexico**  
**NMOCD Reference #: NRM2017527514**



Trinity Oilfield Services & Rentals, LLC  
 P.O. Box 2587  
 Hobbs, NM 88241

Drawn By: BJA	Checked By: JEH
August 26, 2020	Scale: 1" = 0.5mi



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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

(R=POD has been replaced,  
O=orphaned,  
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
<a href="#">C 03829 POD1</a>	CUB	LE		3	3	1	06	26S	32E	620628	3549186	297	646	350	296
<a href="#">C 03554 POD1</a>	CUB	ED		2	1	4	01	26S	31E	620547	3549148	377	630	300	330
<a href="#">C 04209 POD2</a>	C	LE		2	3	3	06	26S	32E	620818	3548657	508	340	155	185
<a href="#">C 04209 POD1</a>	CUB	LE		2	3	3	06	26S	32E	620903	3548619	534	360	155	205
<a href="#">C 04256 POD1</a>	C	ED		4	4	2	01	26S	31E	620384	3549257	550	666	340	326
<a href="#">C 03639 POD1</a>	CUB	ED		3	4	2	01	26S	31E	620168	3549279	766	700	365	335

Average Depth to Water: **277 feet**

Minimum Depth: **155 feet**

Maximum Depth: **365 feet**

Record Count: 6

UTMNAD83 Radius Search (in meters):

Easting (X): 620924.68

Northing (Y): 3549154

Radius: 804.67

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

10/22/20 9:28 PM

Page 1 of 1

WATER COLUMN/ AVERAGE  
DEPTH TO WATER



USGS Home  
Contact USGS  
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater

Geographic Area: United States

GO

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs  
site\_no list =

- 320425103415401

Minimum number of levels = 1  
[Save file of selected sites](#) to local disk for future upload

USGS 320425103415401 26S.31E.01.42110

Eddy County, New Mexico  
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

Date	Time	Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	Water-level accuracy	Status	Method of measurement	Measuring agency	Source of measurement	Water-level approval status
1949-03-10		D	287.70			2		U		U	A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

- Questions about sites/data?
- Feedback on this web site
- Automated retrievals
- Help
- Data Tips
- Explanation of terms
- Subscribe for system changes
- News




**National Water Information System: Web Interface**


USGS Water Resources

Data Category:  
Groundwater

Geographic Area:  
United States

GO

Click to hideNews Bulletins

- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#) 

Groundwater levels for the Nation

## Search Results -- 1 sites found

Agency code = usgs

site\_no list =

- 320424103415401

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

## USGS 320424103415401 26S.31E.01.421322

Eddy County, New Mexico

Latitude 32°04'24", Longitude 103°41'54" NAD27

Land-surface elevation 3,294 feet above NAVD88

This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

### Output formats

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

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water- level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water- level approval status
1983-01-26		D	290.12			2		U		U	A
1983-02-14		D	289.42			2		U		U	A
1987-10-21		D	289.90			2		U		U	A

### Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

[Questions about sites/data?](#)

[Feedback on this web site](#)

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Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>

Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2020-10-22 23:20:48 EDT

0.27 0.25 nadww01



# **Appendix D**

## **Laboratory Analytical Reports**



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

August 12, 2020

Robbie Runnels  
Mewbourne Oil Company  
PO Box 5270  
Hobbs, NM 88241  
TEL: (575) 393-5905  
FAX:

RE: Red Hills Water Management System

OrderNo.: 2008001

Dear Robbie Runnels:

Hall Environmental Analysis Laboratory received 57 sample(s) on 8/1/2020 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](http://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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-1 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/29/2020 8:30:00 AM

Lab ID: 2008001-001

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	17000	600		mg/Kg	200	8/6/2020 10:42:22 PM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	7800	98		mg/Kg	10	8/5/2020 10:57:14 PM	54154
Motor Oil Range Organics (MRO)	7000	490		mg/Kg	10	8/5/2020 10:57:14 PM	54154
Surr: DNOP	0	30.4-154	S	%Rec	10	8/5/2020 10:57:14 PM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/3/2020 9:28:52 PM	54105
Surr: BFB	101	75.3-105		%Rec	1	8/3/2020 9:28:52 PM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/3/2020 9:28:52 PM	54105
Toluene	ND	0.050		mg/Kg	1	8/3/2020 9:28:52 PM	54105
Ethylbenzene	ND	0.050		mg/Kg	1	8/3/2020 9:28:52 PM	54105
Xylenes, Total	ND	0.099		mg/Kg	1	8/3/2020 9:28:52 PM	54105
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/3/2020 9:28:52 PM	54105

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

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

Page 1 of 68

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-1 @ 3'

Project: Red Hills Water Management System

Collection Date: 7/29/2020 8:35:00 AM

Lab ID: 2008001-002

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	360	60		mg/Kg	20	8/5/2020 5:46:07 PM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/5/2020 11:21:00 PM	54154
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/5/2020 11:21:00 PM	54154
Surr: DNOP	97.1	30.4-154		%Rec	1	8/5/2020 11:21:00 PM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/3/2020 10:39:21 PM	54105
Surr: BFB	98.8	75.3-105		%Rec	1	8/3/2020 10:39:21 PM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/3/2020 10:39:21 PM	54105
Toluene	ND	0.050		mg/Kg	1	8/3/2020 10:39:21 PM	54105
Ethylbenzene	ND	0.050		mg/Kg	1	8/3/2020 10:39:21 PM	54105
Xylenes, Total	ND	0.10		mg/Kg	1	8/3/2020 10:39:21 PM	54105
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	8/3/2020 10:39:21 PM	54105

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-2 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/29/2020 8:37:00 AM

Lab ID: 2008001-003

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	15000	600		mg/Kg	200	8/6/2020 10:54:47 PM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	5800	98		mg/Kg	10	8/5/2020 11:44:46 PM	54154
Motor Oil Range Organics (MRO)	5300	490		mg/Kg	10	8/5/2020 11:44:46 PM	54154
Surr: DNOP	0	30.4-154	S	%Rec	10	8/5/2020 11:44:46 PM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/3/2020 11:49:38 PM	54105
Surr: BFB	100	75.3-105		%Rec	1	8/3/2020 11:49:38 PM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	8/3/2020 11:49:38 PM	54105
Toluene	ND	0.048		mg/Kg	1	8/3/2020 11:49:38 PM	54105
Ethylbenzene	ND	0.048		mg/Kg	1	8/3/2020 11:49:38 PM	54105
Xylenes, Total	ND	0.097		mg/Kg	1	8/3/2020 11:49:38 PM	54105
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	8/3/2020 11:49:38 PM	54105

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-2 @ 2'

Project: Red Hills Water Management System

Collection Date: 7/29/2020 8:40:00 AM

Lab ID: 2008001-004

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	370	60		mg/Kg	20	8/5/2020 6:35:46 PM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/6/2020 12:08:35 AM	54154
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/6/2020 12:08:35 AM	54154
Surr: DNOP	96.3	30.4-154		%Rec	1	8/6/2020 12:08:35 AM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 12:13:02 AM	54105
Surr: BFB	98.9	75.3-105		%Rec	1	8/4/2020 12:13:02 AM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/4/2020 12:13:02 AM	54105
Toluene	ND	0.050		mg/Kg	1	8/4/2020 12:13:02 AM	54105
Ethylbenzene	ND	0.050		mg/Kg	1	8/4/2020 12:13:02 AM	54105
Xylenes, Total	ND	0.099		mg/Kg	1	8/4/2020 12:13:02 AM	54105
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	8/4/2020 12:13:02 AM	54105

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-3 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/29/2020 8:47:00 AM

Lab ID: 2008001-005

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	16000	600		mg/Kg	200	8/6/2020 11:07:12 PM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	7200	97		mg/Kg	10	8/6/2020 12:57:11 AM	54154
Motor Oil Range Organics (MRO)	6400	480		mg/Kg	10	8/6/2020 12:57:11 AM	54154
Surr: DNOP	0	30.4-154	S	%Rec	10	8/6/2020 12:57:11 AM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 12:36:31 AM	54105
Surr: BFB	99.9	75.3-105		%Rec	1	8/4/2020 12:36:31 AM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	8/4/2020 12:36:31 AM	54105
Toluene	ND	0.049		mg/Kg	1	8/4/2020 12:36:31 AM	54105
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2020 12:36:31 AM	54105
Xylenes, Total	ND	0.097		mg/Kg	1	8/4/2020 12:36:31 AM	54105
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	8/4/2020 12:36:31 AM	54105

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-3 @ 2'

Project: Red Hills Water Management System

Collection Date: 7/29/2020 8:50:00 AM

Lab ID: 2008001-006

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	380	60		mg/Kg	20	8/5/2020 7:00:36 PM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/6/2020 1:21:28 AM	54154
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/6/2020 1:21:28 AM	54154
Surr: DNOP	94.7	30.4-154		%Rec	1	8/6/2020 1:21:28 AM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 12:59:57 AM	54105
Surr: BFB	97.0	75.3-105		%Rec	1	8/4/2020 12:59:57 AM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	8/4/2020 12:59:57 AM	54105
Toluene	ND	0.049		mg/Kg	1	8/4/2020 12:59:57 AM	54105
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2020 12:59:57 AM	54105
Xylenes, Total	ND	0.097		mg/Kg	1	8/4/2020 12:59:57 AM	54105
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	8/4/2020 12:59:57 AM	54105

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-4 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/29/2020 8:55:00 AM

Lab ID: 2008001-007

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	14000	600		mg/Kg	200	8/6/2020 11:19:37 PM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	8900	930		mg/Kg	100	8/6/2020 1:45:46 AM	54154
Motor Oil Range Organics (MRO)	7800	4600		mg/Kg	100	8/6/2020 1:45:46 AM	54154
Surr: DNOP	0	30.4-154	S	%Rec	100	8/6/2020 1:45:46 AM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 1:23:23 AM	54105
Surr: BFB	99.8	75.3-105		%Rec	1	8/4/2020 1:23:23 AM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/4/2020 1:23:23 AM	54105
Toluene	ND	0.050		mg/Kg	1	8/4/2020 1:23:23 AM	54105
Ethylbenzene	ND	0.050		mg/Kg	1	8/4/2020 1:23:23 AM	54105
Xylenes, Total	ND	0.099		mg/Kg	1	8/4/2020 1:23:23 AM	54105
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	8/4/2020 1:23:23 AM	54105

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-4 @ 2'

Project: Red Hills Water Management System

Collection Date: 7/29/2020 8:57:00 AM

Lab ID: 2008001-008

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	4300	150		mg/Kg	50	8/6/2020 11:32:02 PM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/6/2020 2:10:00 AM	54154
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/6/2020 2:10:00 AM	54154
Surr: DNOP	100	30.4-154		%Rec	1	8/6/2020 2:10:00 AM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 1:46:45 AM	54105
Surr: BFB	101	75.3-105		%Rec	1	8/4/2020 1:46:45 AM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/4/2020 1:46:45 AM	54105
Toluene	ND	0.050		mg/Kg	1	8/4/2020 1:46:45 AM	54105
Ethylbenzene	ND	0.050		mg/Kg	1	8/4/2020 1:46:45 AM	54105
Xylenes, Total	ND	0.099		mg/Kg	1	8/4/2020 1:46:45 AM	54105
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/4/2020 1:46:45 AM	54105

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-5 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/29/2020 9:00:00 AM

Lab ID: 2008001-009

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	9400	300		mg/Kg	100	8/6/2020 11:44:26 PM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/6/2020 2:34:20 AM	54154
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/6/2020 2:34:20 AM	54154
Surr: DNOP	102	30.4-154		%Rec	1	8/6/2020 2:34:20 AM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 2:10:11 AM	54105
Surr: BFB	99.5	75.3-105		%Rec	1	8/4/2020 2:10:11 AM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/4/2020 2:10:11 AM	54105
Toluene	ND	0.049		mg/Kg	1	8/4/2020 2:10:11 AM	54105
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2020 2:10:11 AM	54105
Xylenes, Total	ND	0.099		mg/Kg	1	8/4/2020 2:10:11 AM	54105
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	8/4/2020 2:10:11 AM	54105

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-5 @ 2'

Project: Red Hills Water Management System

Collection Date: 7/29/2020 9:05:00 AM

Lab ID: 2008001-010

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	270	60		mg/Kg	20	8/5/2020 7:50:13 PM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/6/2020 2:58:37 AM	54154
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/6/2020 2:58:37 AM	54154
Surr: DNOP	86.6	30.4-154		%Rec	1	8/6/2020 2:58:37 AM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/4/2020 2:33:43 AM	54105
Surr: BFB	98.5	75.3-105		%Rec	1	8/4/2020 2:33:43 AM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	8/4/2020 2:33:43 AM	54105
Toluene	ND	0.048		mg/Kg	1	8/4/2020 2:33:43 AM	54105
Ethylbenzene	ND	0.048		mg/Kg	1	8/4/2020 2:33:43 AM	54105
Xylenes, Total	ND	0.097		mg/Kg	1	8/4/2020 2:33:43 AM	54105
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	8/4/2020 2:33:43 AM	54105

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-6 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/29/2020 9:10:00 AM

Lab ID: 2008001-011

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	12000	600		mg/Kg	200	8/6/2020 11:56:51 PM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/6/2020 3:22:54 AM	54154
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/6/2020 3:22:54 AM	54154
Surr: DNOP	98.0	30.4-154		%Rec	1	8/6/2020 3:22:54 AM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 3:21:01 AM	54105
Surr: BFB	98.8	75.3-105		%Rec	1	8/4/2020 3:21:01 AM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/4/2020 3:21:01 AM	54105
Toluene	ND	0.050		mg/Kg	1	8/4/2020 3:21:01 AM	54105
Ethylbenzene	ND	0.050		mg/Kg	1	8/4/2020 3:21:01 AM	54105
Xylenes, Total	ND	0.099		mg/Kg	1	8/4/2020 3:21:01 AM	54105
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	8/4/2020 3:21:01 AM	54105

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-6 @ 3'

Project: Red Hills Water Management System

Collection Date: 7/29/2020 9:13:00 AM

Lab ID: 2008001-012

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	290	60		mg/Kg	20	8/5/2020 8:15:02 PM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/6/2020 3:47:08 AM	54154
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/6/2020 3:47:08 AM	54154
Surr: DNOP	86.8	30.4-154		%Rec	1	8/6/2020 3:47:08 AM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 3:44:34 AM	54105
Surr: BFB	98.8	75.3-105		%Rec	1	8/4/2020 3:44:34 AM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/4/2020 3:44:34 AM	54105
Toluene	ND	0.049		mg/Kg	1	8/4/2020 3:44:34 AM	54105
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2020 3:44:34 AM	54105
Xylenes, Total	ND	0.099		mg/Kg	1	8/4/2020 3:44:34 AM	54105
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	8/4/2020 3:44:34 AM	54105

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-7 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/29/2020 9:17:00 AM

Lab ID: 2008001-013

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	17000	600		mg/Kg	200	8/7/2020 12:09:15 AM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/6/2020 4:11:22 AM	54154
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/6/2020 4:11:22 AM	54154
Surr: DNOP	100	30.4-154		%Rec	1	8/6/2020 4:11:22 AM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 4:08:07 AM	54105
Surr: BFB	99.2	75.3-105		%Rec	1	8/4/2020 4:08:07 AM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/4/2020 4:08:07 AM	54105
Toluene	ND	0.049		mg/Kg	1	8/4/2020 4:08:07 AM	54105
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2020 4:08:07 AM	54105
Xylenes, Total	ND	0.098		mg/Kg	1	8/4/2020 4:08:07 AM	54105
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	8/4/2020 4:08:07 AM	54105

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-7 @ 3'

Project: Red Hills Water Management System

Collection Date: 7/29/2020 9:20:00 AM

Lab ID: 2008001-014

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	310	60		mg/Kg	20	8/5/2020 9:04:39 PM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/6/2020 4:35:23 AM	54154
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/6/2020 4:35:23 AM	54154
Surr: DNOP	95.7	30.4-154		%Rec	1	8/6/2020 4:35:23 AM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 4:31:40 AM	54105
Surr: BFB	102	75.3-105		%Rec	1	8/4/2020 4:31:40 AM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/4/2020 4:31:40 AM	54105
Toluene	ND	0.050		mg/Kg	1	8/4/2020 4:31:40 AM	54105
Ethylbenzene	ND	0.050		mg/Kg	1	8/4/2020 4:31:40 AM	54105
Xylenes, Total	ND	0.10		mg/Kg	1	8/4/2020 4:31:40 AM	54105
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	8/4/2020 4:31:40 AM	54105

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-8 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/29/2020 9:23:00 AM

Lab ID: 2008001-015

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	17000	600		mg/Kg	200	8/7/2020 12:21:39 AM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/6/2020 12:59:22 PM	54154
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/6/2020 12:59:22 PM	54154
Surr: DNOP	102	30.4-154		%Rec	1	8/6/2020 12:59:22 PM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 4:55:13 AM	54105
Surr: BFB	100	75.3-105		%Rec	1	8/4/2020 4:55:13 AM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/4/2020 4:55:13 AM	54105
Toluene	ND	0.049		mg/Kg	1	8/4/2020 4:55:13 AM	54105
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2020 4:55:13 AM	54105
Xylenes, Total	ND	0.098		mg/Kg	1	8/4/2020 4:55:13 AM	54105
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	8/4/2020 4:55:13 AM	54105

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-8 @ 2'

Project: Red Hills Water Management System

Collection Date: 7/29/2020 9:28:00 AM

Lab ID: 2008001-016

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	310	60		mg/Kg	20	8/5/2020 9:29:28 PM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/6/2020 5:23:07 AM	54154
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/6/2020 5:23:07 AM	54154
Surr: DNOP	83.3	30.4-154		%Rec	1	8/6/2020 5:23:07 AM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 1:32:44 PM	54105
Surr: BFB	97.8	75.3-105		%Rec	1	8/4/2020 1:32:44 PM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/5/2020 2:20:10 PM	54105
Toluene	ND	0.050		mg/Kg	1	8/5/2020 2:20:10 PM	54105
Ethylbenzene	ND	0.050		mg/Kg	1	8/5/2020 2:20:10 PM	54105
Xylenes, Total	ND	0.10		mg/Kg	1	8/5/2020 2:20:10 PM	54105
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	8/5/2020 2:20:10 PM	54105

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-9 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/29/2020 9:30:00 AM

Lab ID: 2008001-017

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	7300	300		mg/Kg	100	8/7/2020 12:34:04 AM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/6/2020 5:46:57 AM	54154
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/6/2020 5:46:57 AM	54154
Surr: DNOP	92.5	30.4-154		%Rec	1	8/6/2020 5:46:57 AM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 1:56:17 PM	54105
Surr: BFB	100	75.3-105		%Rec	1	8/4/2020 1:56:17 PM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/5/2020 2:43:39 PM	54105
Toluene	ND	0.050		mg/Kg	1	8/5/2020 2:43:39 PM	54105
Ethylbenzene	ND	0.050		mg/Kg	1	8/5/2020 2:43:39 PM	54105
Xylenes, Total	ND	0.099		mg/Kg	1	8/5/2020 2:43:39 PM	54105
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/5/2020 2:43:39 PM	54105

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-9 @ 2'

Project: Red Hills Water Management System

Collection Date: 7/29/2020 9:33:00 AM

Lab ID: 2008001-018

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	390	60		mg/Kg	20	8/5/2020 9:54:18 PM	54199
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/6/2020 6:10:48 AM	54154
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/6/2020 6:10:48 AM	54154
Surr: DNOP	86.9	30.4-154		%Rec	1	8/6/2020 6:10:48 AM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 2:19:52 PM	54105
Surr: BFB	99.9	75.3-105		%Rec	1	8/4/2020 2:19:52 PM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/5/2020 3:07:09 PM	54105
Toluene	ND	0.050		mg/Kg	1	8/5/2020 3:07:09 PM	54105
Ethylbenzene	ND	0.050		mg/Kg	1	8/5/2020 3:07:09 PM	54105
Xylenes, Total	ND	0.10		mg/Kg	1	8/5/2020 3:07:09 PM	54105
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	8/5/2020 3:07:09 PM	54105

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-10 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/29/2020 9:37:00 AM

Lab ID: 2008001-019

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	14000	600		mg/Kg	200	8/7/2020 1:11:18 AM	54221
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/6/2020 6:34:42 AM	54154
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/6/2020 6:34:42 AM	54154
Surr: DNOP	93.8	30.4-154		%Rec	1	8/6/2020 6:34:42 AM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 2:43:25 PM	54105
Surr: BFB	101	75.3-105		%Rec	1	8/4/2020 2:43:25 PM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/5/2020 3:30:36 PM	54105
Toluene	ND	0.050		mg/Kg	1	8/5/2020 3:30:36 PM	54105
Ethylbenzene	ND	0.050		mg/Kg	1	8/5/2020 3:30:36 PM	54105
Xylenes, Total	ND	0.099		mg/Kg	1	8/5/2020 3:30:36 PM	54105
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	8/5/2020 3:30:36 PM	54105

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-10 @ 3'

Project: Red Hills Water Management System

Collection Date: 7/29/2020 9:40:00 AM

Lab ID: 2008001-020

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	420	60		mg/Kg	20	8/6/2020 2:27:21 PM	54221
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: CLP
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/6/2020 6:58:27 AM	54154
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/6/2020 6:58:27 AM	54154
Surr: DNOP	85.4	30.4-154		%Rec	1	8/6/2020 6:58:27 AM	54154
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 4:17:44 PM	54105
Surr: BFB	99.5	75.3-105		%Rec	1	8/4/2020 4:17:44 PM	54105
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/5/2020 3:54:05 PM	54105
Toluene	ND	0.050		mg/Kg	1	8/5/2020 3:54:05 PM	54105
Ethylbenzene	ND	0.050		mg/Kg	1	8/5/2020 3:54:05 PM	54105
Xylenes, Total	ND	0.10		mg/Kg	1	8/5/2020 3:54:05 PM	54105
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/5/2020 3:54:05 PM	54105

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-11 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/29/2020 9:43:00 AM

Lab ID: 2008001-021

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	14000	600		mg/Kg	200	8/7/2020 1:23:42 AM	54221
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/4/2020 7:09:09 AM	54106
Surr: BFB	98.6	70-130		%Rec	1	8/4/2020 7:09:09 AM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/5/2020 2:41:00 PM	54157
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/5/2020 2:41:00 PM	54157
Surr: DNOP	104	30.4-154		%Rec	1	8/5/2020 2:41:00 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	8/4/2020 7:09:09 AM	54106
Toluene	ND	0.048		mg/Kg	1	8/4/2020 7:09:09 AM	54106
Ethylbenzene	ND	0.048		mg/Kg	1	8/4/2020 7:09:09 AM	54106
Xylenes, Total	ND	0.097		mg/Kg	1	8/4/2020 7:09:09 AM	54106
Surr: 1,2-Dichloroethane-d4	94.5	70-130		%Rec	1	8/4/2020 7:09:09 AM	54106
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	8/4/2020 7:09:09 AM	54106
Surr: Dibromofluoromethane	102	70-130		%Rec	1	8/4/2020 7:09:09 AM	54106
Surr: Toluene-d8	100	70-130		%Rec	1	8/4/2020 7:09:09 AM	54106

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-11 @ 2'

Project: Red Hills Water Management System

Collection Date: 7/29/2020 9:47:00 AM

Lab ID: 2008001-022

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	440	59		mg/Kg	20	8/6/2020 3:16:44 PM	54221
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 8:34:54 AM	54106
Surr: BFB	100	70-130		%Rec	1	8/4/2020 8:34:54 AM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/5/2020 3:10:45 PM	54157
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/5/2020 3:10:45 PM	54157
Surr: DNOP	103	30.4-154		%Rec	1	8/5/2020 3:10:45 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	8/4/2020 8:34:54 AM	54106
Toluene	ND	0.049		mg/Kg	1	8/4/2020 8:34:54 AM	54106
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2020 8:34:54 AM	54106
Xylenes, Total	ND	0.099		mg/Kg	1	8/4/2020 8:34:54 AM	54106
Surr: 1,2-Dichloroethane-d4	99.4	70-130		%Rec	1	8/4/2020 8:34:54 AM	54106
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	8/4/2020 8:34:54 AM	54106
Surr: Dibromofluoromethane	109	70-130		%Rec	1	8/4/2020 8:34:54 AM	54106
Surr: Toluene-d8	99.7	70-130		%Rec	1	8/4/2020 8:34:54 AM	54106

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-12 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/29/2020 9:50:00 AM

Lab ID: 2008001-023

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	12000	600		mg/Kg	200	8/7/2020 1:36:07 AM	54221
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 7:34:52 PM	54106
Surr: BFB	101	70-130		%Rec	1	8/4/2020 7:34:52 PM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/5/2020 3:20:36 PM	54157
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/5/2020 3:20:36 PM	54157
Surr: DNOP	110	30.4-154		%Rec	1	8/5/2020 3:20:36 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	8/4/2020 7:34:52 PM	54106
Toluene	ND	0.049		mg/Kg	1	8/4/2020 7:34:52 PM	54106
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2020 7:34:52 PM	54106
Xylenes, Total	ND	0.097		mg/Kg	1	8/4/2020 7:34:52 PM	54106
Surr: 1,2-Dichloroethane-d4	96.2	70-130		%Rec	1	8/4/2020 7:34:52 PM	54106
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/4/2020 7:34:52 PM	54106
Surr: Dibromofluoromethane	102	70-130		%Rec	1	8/4/2020 7:34:52 PM	54106
Surr: Toluene-d8	99.3	70-130		%Rec	1	8/4/2020 7:34:52 PM	54106

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-12 @ 3'

Project: Red Hills Water Management System

Collection Date: 7/29/2020 9:55:00 AM

Lab ID: 2008001-024

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	470	60		mg/Kg	20	8/6/2020 3:41:26 PM	54221
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 8:03:23 PM	54106
Surr: BFB	100	70-130		%Rec	1	8/4/2020 8:03:23 PM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/5/2020 3:30:27 PM	54157
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/5/2020 3:30:27 PM	54157
Surr: DNOP	99.1	30.4-154		%Rec	1	8/5/2020 3:30:27 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	8/4/2020 8:03:23 PM	54106
Toluene	ND	0.050		mg/Kg	1	8/4/2020 8:03:23 PM	54106
Ethylbenzene	ND	0.050		mg/Kg	1	8/4/2020 8:03:23 PM	54106
Xylenes, Total	ND	0.099		mg/Kg	1	8/4/2020 8:03:23 PM	54106
Surr: 1,2-Dichloroethane-d4	98.4	70-130		%Rec	1	8/4/2020 8:03:23 PM	54106
Surr: 4-Bromofluorobenzene	96.1	70-130		%Rec	1	8/4/2020 8:03:23 PM	54106
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/4/2020 8:03:23 PM	54106
Surr: Toluene-d8	102	70-130		%Rec	1	8/4/2020 8:03:23 PM	54106

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-13 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/30/2020 8:30:00 AM

Lab ID: 2008001-025

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	9400	600		mg/Kg	200	8/7/2020 1:48:31 AM	54221
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 8:31:53 PM	54106
Surr: BFB	104	70-130		%Rec	1	8/4/2020 8:31:53 PM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/5/2020 3:40:18 PM	54157
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/5/2020 3:40:18 PM	54157
Surr: DNOP	96.0	30.4-154		%Rec	1	8/5/2020 3:40:18 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	8/4/2020 8:31:53 PM	54106
Toluene	ND	0.050		mg/Kg	1	8/4/2020 8:31:53 PM	54106
Ethylbenzene	ND	0.050		mg/Kg	1	8/4/2020 8:31:53 PM	54106
Xylenes, Total	ND	0.10		mg/Kg	1	8/4/2020 8:31:53 PM	54106
Surr: 1,2-Dichloroethane-d4	95.9	70-130		%Rec	1	8/4/2020 8:31:53 PM	54106
Surr: 4-Bromofluorobenzene	98.7	70-130		%Rec	1	8/4/2020 8:31:53 PM	54106
Surr: Dibromofluoromethane	106	70-130		%Rec	1	8/4/2020 8:31:53 PM	54106
Surr: Toluene-d8	96.7	70-130		%Rec	1	8/4/2020 8:31:53 PM	54106

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-13 @ 3'

Project: Red Hills Water Management System

Collection Date: 7/30/2020 8:33:00 AM

Lab ID: 2008001-026

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	2700	150		mg/Kg	50	8/7/2020 2:00:55 AM	54221
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/4/2020 9:00:28 PM	54106
Surr: BFB	103	70-130		%Rec	1	8/4/2020 9:00:28 PM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/5/2020 3:50:07 PM	54157
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/5/2020 3:50:07 PM	54157
Surr: DNOP	109	30.4-154		%Rec	1	8/5/2020 3:50:07 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	8/4/2020 9:00:28 PM	54106
Toluene	ND	0.048		mg/Kg	1	8/4/2020 9:00:28 PM	54106
Ethylbenzene	ND	0.048		mg/Kg	1	8/4/2020 9:00:28 PM	54106
Xylenes, Total	ND	0.097		mg/Kg	1	8/4/2020 9:00:28 PM	54106
Surr: 1,2-Dichloroethane-d4	98.6	70-130		%Rec	1	8/4/2020 9:00:28 PM	54106
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/4/2020 9:00:28 PM	54106
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/4/2020 9:00:28 PM	54106
Surr: Toluene-d8	100	70-130		%Rec	1	8/4/2020 9:00:28 PM	54106

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-14 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/30/2020 8:37:00 AM

Lab ID: 2008001-027

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	7300	300		mg/Kg	100	8/7/2020 2:13:20 AM	54221
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 9:29:05 PM	54106
Surr: BFB	102	70-130		%Rec	1	8/4/2020 9:29:05 PM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/5/2020 3:59:53 PM	54157
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/5/2020 3:59:53 PM	54157
Surr: DNOP	109	30.4-154		%Rec	1	8/5/2020 3:59:53 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	8/4/2020 9:29:05 PM	54106
Toluene	ND	0.049		mg/Kg	1	8/4/2020 9:29:05 PM	54106
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2020 9:29:05 PM	54106
Xylenes, Total	ND	0.098		mg/Kg	1	8/4/2020 9:29:05 PM	54106
Surr: 1,2-Dichloroethane-d4	97.2	70-130		%Rec	1	8/4/2020 9:29:05 PM	54106
Surr: 4-Bromofluorobenzene	95.9	70-130		%Rec	1	8/4/2020 9:29:05 PM	54106
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/4/2020 9:29:05 PM	54106
Surr: Toluene-d8	100	70-130		%Rec	1	8/4/2020 9:29:05 PM	54106

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-14 @ 3'

Project: Red Hills Water Management System

Collection Date: 7/30/2020 8:40:00 AM

Lab ID: 2008001-028

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	2400	150		mg/Kg	50	8/7/2020 2:25:45 AM	54221
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 9:57:35 PM	54106
Surr: BFB	98.9	70-130		%Rec	1	8/4/2020 9:57:35 PM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/5/2020 4:09:42 PM	54157
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/5/2020 4:09:42 PM	54157
Surr: DNOP	104	30.4-154		%Rec	1	8/5/2020 4:09:42 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	8/4/2020 9:57:35 PM	54106
Toluene	ND	0.049		mg/Kg	1	8/4/2020 9:57:35 PM	54106
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2020 9:57:35 PM	54106
Xylenes, Total	ND	0.098		mg/Kg	1	8/4/2020 9:57:35 PM	54106
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	8/4/2020 9:57:35 PM	54106
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	8/4/2020 9:57:35 PM	54106
Surr: Dibromofluoromethane	110	70-130		%Rec	1	8/4/2020 9:57:35 PM	54106
Surr: Toluene-d8	97.9	70-130		%Rec	1	8/4/2020 9:57:35 PM	54106

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-15 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/30/2020 8:43:00 AM

Lab ID: 2008001-029

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	8400	300		mg/Kg	100	8/7/2020 2:38:09 AM	54221
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 10:26:03 PM	54106
Surr: BFB	106	70-130		%Rec	1	8/4/2020 10:26:03 PM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/6/2020 3:18:38 PM	54157
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/6/2020 3:18:38 PM	54157
Surr: DNOP	107	30.4-154		%Rec	1	8/6/2020 3:18:38 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	8/4/2020 10:26:03 PM	54106
Toluene	ND	0.049		mg/Kg	1	8/4/2020 10:26:03 PM	54106
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2020 10:26:03 PM	54106
Xylenes, Total	ND	0.098		mg/Kg	1	8/4/2020 10:26:03 PM	54106
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	8/4/2020 10:26:03 PM	54106
Surr: 4-Bromofluorobenzene	99.2	70-130		%Rec	1	8/4/2020 10:26:03 PM	54106
Surr: Dibromofluoromethane	105	70-130		%Rec	1	8/4/2020 10:26:03 PM	54106
Surr: Toluene-d8	98.7	70-130		%Rec	1	8/4/2020 10:26:03 PM	54106

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-15 @ 3'

Project: Red Hills Water Management System

Collection Date: 7/30/2020 8:47:00 AM

Lab ID: 2008001-030

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	2500	150		mg/Kg	50	8/7/2020 2:50:34 AM	54221
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 10:54:33 PM	54106
Surr: BFB	100	70-130		%Rec	1	8/4/2020 10:54:33 PM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/5/2020 4:29:13 PM	54157
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/5/2020 4:29:13 PM	54157
Surr: DNOP	112	30.4-154		%Rec	1	8/5/2020 4:29:13 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	8/4/2020 10:54:33 PM	54106
Toluene	ND	0.050		mg/Kg	1	8/4/2020 10:54:33 PM	54106
Ethylbenzene	ND	0.050		mg/Kg	1	8/4/2020 10:54:33 PM	54106
Xylenes, Total	ND	0.099		mg/Kg	1	8/4/2020 10:54:33 PM	54106
Surr: 1,2-Dichloroethane-d4	95.9	70-130		%Rec	1	8/4/2020 10:54:33 PM	54106
Surr: 4-Bromofluorobenzene	97.8	70-130		%Rec	1	8/4/2020 10:54:33 PM	54106
Surr: Dibromofluoromethane	109	70-130		%Rec	1	8/4/2020 10:54:33 PM	54106
Surr: Toluene-d8	99.4	70-130		%Rec	1	8/4/2020 10:54:33 PM	54106

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-16 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/30/2020 8:50:00 AM

Lab ID: 2008001-031

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	20000	1500		mg/Kg	500	8/7/2020 8:59:10 AM	54232
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 11:23:06 PM	54106
Surr: BFB	102	70-130		%Rec	1	8/4/2020 11:23:06 PM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/5/2020 4:38:56 PM	54157
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/5/2020 4:38:56 PM	54157
Surr: DNOP	81.3	30.4-154		%Rec	1	8/5/2020 4:38:56 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	8/4/2020 11:23:06 PM	54106
Toluene	ND	0.050		mg/Kg	1	8/4/2020 11:23:06 PM	54106
Ethylbenzene	ND	0.050		mg/Kg	1	8/4/2020 11:23:06 PM	54106
Xylenes, Total	ND	0.10		mg/Kg	1	8/4/2020 11:23:06 PM	54106
Surr: 1,2-Dichloroethane-d4	97.9	70-130		%Rec	1	8/4/2020 11:23:06 PM	54106
Surr: 4-Bromofluorobenzene	99.0	70-130		%Rec	1	8/4/2020 11:23:06 PM	54106
Surr: Dibromofluoromethane	107	70-130		%Rec	1	8/4/2020 11:23:06 PM	54106
Surr: Toluene-d8	98.9	70-130		%Rec	1	8/4/2020 11:23:06 PM	54106

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-16 @ 3'

Project: Red Hills Water Management System

Collection Date: 7/30/2020 8:53:00 AM

Lab ID: 2008001-032

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	2100	150		mg/Kg	50	8/7/2020 9:11:31 AM	54232
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 11:51:37 PM	54106
Surr: BFB	101	70-130		%Rec	1	8/4/2020 11:51:37 PM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/5/2020 4:48:40 PM	54157
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/5/2020 4:48:40 PM	54157
Surr: DNOP	85.5	30.4-154		%Rec	1	8/5/2020 4:48:40 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	8/4/2020 11:51:37 PM	54106
Toluene	ND	0.049		mg/Kg	1	8/4/2020 11:51:37 PM	54106
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2020 11:51:37 PM	54106
Xylenes, Total	ND	0.098		mg/Kg	1	8/4/2020 11:51:37 PM	54106
Surr: 1,2-Dichloroethane-d4	94.4	70-130		%Rec	1	8/4/2020 11:51:37 PM	54106
Surr: 4-Bromofluorobenzene	97.8	70-130		%Rec	1	8/4/2020 11:51:37 PM	54106
Surr: Dibromofluoromethane	105	70-130		%Rec	1	8/4/2020 11:51:37 PM	54106
Surr: Toluene-d8	101	70-130		%Rec	1	8/4/2020 11:51:37 PM	54106

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-17 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/30/2020 8:57:00 AM

Lab ID: 2008001-033

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	22000	1500		mg/Kg	500	8/7/2020 9:23:52 AM	54232
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/5/2020 2:14:08 AM	54106
Surr: BFB	101	70-130		%Rec	1	8/5/2020 2:14:08 AM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/5/2020 4:58:24 PM	54157
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/5/2020 4:58:24 PM	54157
Surr: DNOP	83.2	30.4-154		%Rec	1	8/5/2020 4:58:24 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	8/5/2020 2:14:08 AM	54106
Toluene	ND	0.049		mg/Kg	1	8/5/2020 2:14:08 AM	54106
Ethylbenzene	ND	0.049		mg/Kg	1	8/5/2020 2:14:08 AM	54106
Xylenes, Total	ND	0.099		mg/Kg	1	8/5/2020 2:14:08 AM	54106
Surr: 1,2-Dichloroethane-d4	94.3	70-130		%Rec	1	8/5/2020 2:14:08 AM	54106
Surr: 4-Bromofluorobenzene	97.4	70-130		%Rec	1	8/5/2020 2:14:08 AM	54106
Surr: Dibromofluoromethane	102	70-130		%Rec	1	8/5/2020 2:14:08 AM	54106
Surr: Toluene-d8	99.9	70-130		%Rec	1	8/5/2020 2:14:08 AM	54106

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-17 @ 3'

Project: Red Hills Water Management System

Collection Date: 7/30/2020 9:00:00 AM

Lab ID: 2008001-034

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	2400	60		mg/Kg	20	8/6/2020 6:59:00 PM	54232
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/5/2020 2:42:40 AM	54106
Surr: BFB	102	70-130		%Rec	1	8/5/2020 2:42:40 AM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/5/2020 5:08:08 PM	54157
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/5/2020 5:08:08 PM	54157
Surr: DNOP	108	30.4-154		%Rec	1	8/5/2020 5:08:08 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	8/5/2020 2:42:40 AM	54106
Toluene	ND	0.049		mg/Kg	1	8/5/2020 2:42:40 AM	54106
Ethylbenzene	ND	0.049		mg/Kg	1	8/5/2020 2:42:40 AM	54106
Xylenes, Total	ND	0.099		mg/Kg	1	8/5/2020 2:42:40 AM	54106
Surr: 1,2-Dichloroethane-d4	94.1	70-130		%Rec	1	8/5/2020 2:42:40 AM	54106
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	8/5/2020 2:42:40 AM	54106
Surr: Dibromofluoromethane	105	70-130		%Rec	1	8/5/2020 2:42:40 AM	54106
Surr: Toluene-d8	99.1	70-130		%Rec	1	8/5/2020 2:42:40 AM	54106

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-18 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/30/2020 9:03:00 AM

Lab ID: 2008001-035

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	20000	1500		mg/Kg	500	8/7/2020 9:36:13 AM	54232
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/5/2020 3:11:15 AM	54106
Surr: BFB	104	70-130		%Rec	1	8/5/2020 3:11:15 AM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/5/2020 5:17:57 PM	54157
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/5/2020 5:17:57 PM	54157
Surr: DNOP	87.9	30.4-154		%Rec	1	8/5/2020 5:17:57 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	8/5/2020 3:11:15 AM	54106
Toluene	ND	0.049		mg/Kg	1	8/5/2020 3:11:15 AM	54106
Ethylbenzene	ND	0.049		mg/Kg	1	8/5/2020 3:11:15 AM	54106
Xylenes, Total	ND	0.099		mg/Kg	1	8/5/2020 3:11:15 AM	54106
Surr: 1,2-Dichloroethane-d4	97.2	70-130		%Rec	1	8/5/2020 3:11:15 AM	54106
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	8/5/2020 3:11:15 AM	54106
Surr: Dibromofluoromethane	104	70-130		%Rec	1	8/5/2020 3:11:15 AM	54106
Surr: Toluene-d8	99.6	70-130		%Rec	1	8/5/2020 3:11:15 AM	54106

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-18 @ 3'

Project: Red Hills Water Management System

Collection Date: 7/30/2020 9:07:00 AM

Lab ID: 2008001-036

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	2400	150		mg/Kg	50	8/7/2020 9:48:34 AM	54232
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/5/2020 3:39:47 AM	54106
Surr: BFB	98.7	70-130		%Rec	1	8/5/2020 3:39:47 AM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/5/2020 5:27:49 PM	54157
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/5/2020 5:27:49 PM	54157
Surr: DNOP	98.3	30.4-154		%Rec	1	8/5/2020 5:27:49 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	8/5/2020 3:39:47 AM	54106
Toluene	ND	0.049		mg/Kg	1	8/5/2020 3:39:47 AM	54106
Ethylbenzene	ND	0.049		mg/Kg	1	8/5/2020 3:39:47 AM	54106
Xylenes, Total	ND	0.099		mg/Kg	1	8/5/2020 3:39:47 AM	54106
Surr: 1,2-Dichloroethane-d4	97.0	70-130		%Rec	1	8/5/2020 3:39:47 AM	54106
Surr: 4-Bromofluorobenzene	98.7	70-130		%Rec	1	8/5/2020 3:39:47 AM	54106
Surr: Dibromofluoromethane	105	70-130		%Rec	1	8/5/2020 3:39:47 AM	54106
Surr: Toluene-d8	96.7	70-130		%Rec	1	8/5/2020 3:39:47 AM	54106

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-19 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/30/2020 9:10:00 AM

Lab ID: 2008001-037

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	17000	1500		mg/Kg	500	8/7/2020 10:00:55 AM	54232
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/5/2020 4:08:16 AM	54106
Surr: BFB	98.3	70-130		%Rec	1	8/5/2020 4:08:16 AM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/5/2020 5:37:48 PM	54157
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/5/2020 5:37:48 PM	54157
Surr: DNOP	67.5	30.4-154		%Rec	1	8/5/2020 5:37:48 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	8/5/2020 4:08:16 AM	54106
Toluene	ND	0.050		mg/Kg	1	8/5/2020 4:08:16 AM	54106
Ethylbenzene	ND	0.050		mg/Kg	1	8/5/2020 4:08:16 AM	54106
Xylenes, Total	ND	0.10		mg/Kg	1	8/5/2020 4:08:16 AM	54106
Surr: 1,2-Dichloroethane-d4	92.4	70-130		%Rec	1	8/5/2020 4:08:16 AM	54106
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	8/5/2020 4:08:16 AM	54106
Surr: Dibromofluoromethane	103	70-130		%Rec	1	8/5/2020 4:08:16 AM	54106
Surr: Toluene-d8	98.9	70-130		%Rec	1	8/5/2020 4:08:16 AM	54106

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-19 @ 3'

Project: Red Hills Water Management System

Collection Date: 7/30/2020 9:13:00 AM

Lab ID: 2008001-038

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	1400	60		mg/Kg	20	8/6/2020 7:48:26 PM	54232
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/5/2020 4:36:41 AM	54106
Surr: BFB	98.2	70-130		%Rec	1	8/5/2020 4:36:41 AM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/5/2020 5:47:49 PM	54157
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/5/2020 5:47:49 PM	54157
Surr: DNOP	90.8	30.4-154		%Rec	1	8/5/2020 5:47:49 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	8/5/2020 4:36:41 AM	54106
Toluene	ND	0.050		mg/Kg	1	8/5/2020 4:36:41 AM	54106
Ethylbenzene	ND	0.050		mg/Kg	1	8/5/2020 4:36:41 AM	54106
Xylenes, Total	ND	0.099		mg/Kg	1	8/5/2020 4:36:41 AM	54106
Surr: 1,2-Dichloroethane-d4	96.4	70-130		%Rec	1	8/5/2020 4:36:41 AM	54106
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	8/5/2020 4:36:41 AM	54106
Surr: Dibromofluoromethane	102	70-130		%Rec	1	8/5/2020 4:36:41 AM	54106
Surr: Toluene-d8	92.5	70-130		%Rec	1	8/5/2020 4:36:41 AM	54106

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-20 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/30/2020 9:17:00 AM

Lab ID: 2008001-039

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	19000	1500		mg/Kg	500	8/7/2020 10:13:15 AM	54232
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/5/2020 5:05:07 AM	54106
Surr: BFB	100	70-130		%Rec	1	8/5/2020 5:05:07 AM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/5/2020 5:57:51 PM	54157
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/5/2020 5:57:51 PM	54157
Surr: DNOP	92.8	30.4-154		%Rec	1	8/5/2020 5:57:51 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	8/5/2020 5:05:07 AM	54106
Toluene	ND	0.050		mg/Kg	1	8/5/2020 5:05:07 AM	54106
Ethylbenzene	ND	0.050		mg/Kg	1	8/5/2020 5:05:07 AM	54106
Xylenes, Total	ND	0.10		mg/Kg	1	8/5/2020 5:05:07 AM	54106
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	8/5/2020 5:05:07 AM	54106
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	8/5/2020 5:05:07 AM	54106
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/5/2020 5:05:07 AM	54106
Surr: Toluene-d8	96.2	70-130		%Rec	1	8/5/2020 5:05:07 AM	54106

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-20 @ 2'

Project: Red Hills Water Management System

Collection Date: 7/30/2020 9:20:00 AM

Lab ID: 2008001-040

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	480	60		mg/Kg	20	8/6/2020 8:37:50 PM	54232
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/5/2020 5:33:54 AM	54106
Surr: BFB	100	70-130		%Rec	1	8/5/2020 5:33:54 AM	54106
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/5/2020 6:07:55 PM	54157
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/5/2020 6:07:55 PM	54157
Surr: DNOP	83.2	30.4-154		%Rec	1	8/5/2020 6:07:55 PM	54157
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	8/5/2020 5:33:54 AM	54106
Toluene	ND	0.049		mg/Kg	1	8/5/2020 5:33:54 AM	54106
Ethylbenzene	ND	0.049		mg/Kg	1	8/5/2020 5:33:54 AM	54106
Xylenes, Total	ND	0.099		mg/Kg	1	8/5/2020 5:33:54 AM	54106
Surr: 1,2-Dichloroethane-d4	98.0	70-130		%Rec	1	8/5/2020 5:33:54 AM	54106
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	8/5/2020 5:33:54 AM	54106
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/5/2020 5:33:54 AM	54106
Surr: Toluene-d8	98.5	70-130		%Rec	1	8/5/2020 5:33:54 AM	54106

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-21 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/30/2020 9:23:00 AM

Lab ID: 2008001-041

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	16000	600		mg/Kg	200	8/7/2020 10:25:37 AM	54232
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/5/2020 7:08:22 PM	54158
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/5/2020 7:08:22 PM	54158
Surr: DNOP	101	30.4-154		%Rec	1	8/5/2020 7:08:22 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 4:41:26 PM	54107
Surr: BFB	101	75.3-105		%Rec	1	8/4/2020 4:41:26 PM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/5/2020 4:17:39 PM	54107
Toluene	ND	0.050		mg/Kg	1	8/5/2020 4:17:39 PM	54107
Ethylbenzene	ND	0.050		mg/Kg	1	8/5/2020 4:17:39 PM	54107
Xylenes, Total	ND	0.10		mg/Kg	1	8/5/2020 4:17:39 PM	54107
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	8/5/2020 4:17:39 PM	54107

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-21 @ 2'

Project: Red Hills Water Management System

Collection Date: 7/30/2020 9:27:00 AM

Lab ID: 2008001-042

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	1400	60		mg/Kg	20	8/6/2020 9:27:11 PM	54232
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/5/2020 7:38:19 PM	54158
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/5/2020 7:38:19 PM	54158
Surr: DNOP	70.2	30.4-154		%Rec	1	8/5/2020 7:38:19 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 5:52:05 PM	54107
Surr: BFB	99.6	75.3-105		%Rec	1	8/4/2020 5:52:05 PM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/5/2020 5:27:55 PM	54107
Toluene	ND	0.050		mg/Kg	1	8/5/2020 5:27:55 PM	54107
Ethylbenzene	ND	0.050		mg/Kg	1	8/5/2020 5:27:55 PM	54107
Xylenes, Total	ND	0.099		mg/Kg	1	8/5/2020 5:27:55 PM	54107
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	8/5/2020 5:27:55 PM	54107

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-22 @ Surface

Project: Red Hills Water Management System

Collection Date: 7/30/2020 9:30:00 AM

Lab ID: 2008001-043

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	22000	1500		mg/Kg	500	8/7/2020 10:37:57 AM	54232
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/5/2020 7:48:20 PM	54158
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/5/2020 7:48:20 PM	54158
Surr: DNOP	98.9	30.4-154		%Rec	1	8/5/2020 7:48:20 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 7:02:44 PM	54107
Surr: BFB	102	75.3-105		%Rec	1	8/4/2020 7:02:44 PM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/5/2020 5:51:20 PM	54107
Toluene	ND	0.049		mg/Kg	1	8/5/2020 5:51:20 PM	54107
Ethylbenzene	ND	0.049		mg/Kg	1	8/5/2020 5:51:20 PM	54107
Xylenes, Total	ND	0.097		mg/Kg	1	8/5/2020 5:51:20 PM	54107
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	8/5/2020 5:51:20 PM	54107

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-22 @ 2'

Project: Red Hills Water Management System

Collection Date: 7/30/2020 9:33:00 AM

Lab ID: 2008001-044

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	350	60		mg/Kg	20	8/6/2020 9:51:53 PM	54232
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/5/2020 7:58:22 PM	54158
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/5/2020 7:58:22 PM	54158
Surr: DNOP	90.2	30.4-154		%Rec	1	8/5/2020 7:58:22 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 7:26:14 PM	54107
Surr: BFB	102	75.3-105		%Rec	1	8/4/2020 7:26:14 PM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/5/2020 6:14:48 PM	54107
Toluene	ND	0.049		mg/Kg	1	8/5/2020 6:14:48 PM	54107
Ethylbenzene	ND	0.049		mg/Kg	1	8/5/2020 6:14:48 PM	54107
Xylenes, Total	ND	0.098		mg/Kg	1	8/5/2020 6:14:48 PM	54107
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	8/5/2020 6:14:48 PM	54107

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-23 N. Wall

Project: Red Hills Water Management System

Collection Date: 7/30/2020 1:30:00 PM

Lab ID: 2008001-045

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/6/2020 10:04:13 PM	54232
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/5/2020 8:08:26 PM	54158
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/5/2020 8:08:26 PM	54158
Surr: DNOP	88.6	30.4-154		%Rec	1	8/5/2020 8:08:26 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 7:49:44 PM	54107
Surr: BFB	102	75.3-105		%Rec	1	8/4/2020 7:49:44 PM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/5/2020 7:48:42 PM	54107
Toluene	ND	0.049		mg/Kg	1	8/5/2020 7:48:42 PM	54107
Ethylbenzene	ND	0.049		mg/Kg	1	8/5/2020 7:48:42 PM	54107
Xylenes, Total	ND	0.098		mg/Kg	1	8/5/2020 7:48:42 PM	54107
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	8/5/2020 7:48:42 PM	54107

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-23 S. Wall

Project: Red Hills Water Management System

Collection Date: 7/30/2020 1:33:00 PM

Lab ID: 2008001-046

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/6/2020 10:16:33 PM	54232
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/5/2020 8:18:28 PM	54158
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/5/2020 8:18:28 PM	54158
Surr: DNOP	77.8	30.4-154		%Rec	1	8/5/2020 8:18:28 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 8:13:13 PM	54107
Surr: BFB	103	75.3-105		%Rec	1	8/4/2020 8:13:13 PM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/5/2020 8:12:07 PM	54107
Toluene	ND	0.049		mg/Kg	1	8/5/2020 8:12:07 PM	54107
Ethylbenzene	ND	0.049		mg/Kg	1	8/5/2020 8:12:07 PM	54107
Xylenes, Total	ND	0.099		mg/Kg	1	8/5/2020 8:12:07 PM	54107
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/5/2020 8:12:07 PM	54107

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-23 Floor

Project: Red Hills Water Management System

Collection Date: 7/30/2020 1:25:00 PM

Lab ID: 2008001-047

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	59		mg/Kg	20	8/6/2020 10:28:54 PM	54232
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/5/2020 8:28:32 PM	54158
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/5/2020 8:28:32 PM	54158
Surr: DNOP	78.8	30.4-154		%Rec	1	8/5/2020 8:28:32 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 8:36:40 PM	54107
Surr: BFB	101	75.3-105		%Rec	1	8/4/2020 8:36:40 PM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/5/2020 8:35:34 PM	54107
Toluene	ND	0.049		mg/Kg	1	8/5/2020 8:35:34 PM	54107
Ethylbenzene	ND	0.049		mg/Kg	1	8/5/2020 8:35:34 PM	54107
Xylenes, Total	ND	0.098		mg/Kg	1	8/5/2020 8:35:34 PM	54107
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	8/5/2020 8:35:34 PM	54107

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-24 N. Wall

Project: Red Hills Water Management System

Collection Date: 7/29/2020 11:23:00 AM

Lab ID: 2008001-048

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/6/2020 10:41:15 PM	54232
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/5/2020 8:38:34 PM	54158
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/5/2020 8:38:34 PM	54158
Surr: DNOP	74.9	30.4-154		%Rec	1	8/5/2020 8:38:34 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/4/2020 9:00:09 PM	54107
Surr: BFB	101	75.3-105		%Rec	1	8/4/2020 9:00:09 PM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/5/2020 8:59:11 PM	54107
Toluene	ND	0.048		mg/Kg	1	8/5/2020 8:59:11 PM	54107
Ethylbenzene	ND	0.048		mg/Kg	1	8/5/2020 8:59:11 PM	54107
Xylenes, Total	ND	0.096		mg/Kg	1	8/5/2020 8:59:11 PM	54107
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	8/5/2020 8:59:11 PM	54107

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-24 S. Wall

Project: Red Hills Water Management System

Collection Date: 7/29/2020 11:25:00 AM

Lab ID: 2008001-049

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/6/2020 10:53:36 PM	54232
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/5/2020 8:48:36 PM	54158
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/5/2020 8:48:36 PM	54158
Surr: DNOP	95.9	30.4-154		%Rec	1	8/5/2020 8:48:36 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 9:23:32 PM	54107
Surr: BFB	100	75.3-105		%Rec	1	8/4/2020 9:23:32 PM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/5/2020 9:22:35 PM	54107
Toluene	ND	0.050		mg/Kg	1	8/5/2020 9:22:35 PM	54107
Ethylbenzene	ND	0.050		mg/Kg	1	8/5/2020 9:22:35 PM	54107
Xylenes, Total	ND	0.10		mg/Kg	1	8/5/2020 9:22:35 PM	54107
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	8/5/2020 9:22:35 PM	54107

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-24 Floor

Project: Red Hills Water Management System

Collection Date: 7/29/2020 11:30:00 AM

Lab ID: 2008001-050

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/6/2020 11:05:56 PM	54232
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/5/2020 8:58:40 PM	54158
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/5/2020 8:58:40 PM	54158
Surr: DNOP	74.4	30.4-154		%Rec	1	8/5/2020 8:58:40 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 10:33:52 PM	54107
Surr: BFB	101	75.3-105		%Rec	1	8/4/2020 10:33:52 PM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/4/2020 10:33:52 PM	54107
Toluene	ND	0.049		mg/Kg	1	8/4/2020 10:33:52 PM	54107
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2020 10:33:52 PM	54107
Xylenes, Total	ND	0.098		mg/Kg	1	8/4/2020 10:33:52 PM	54107
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/4/2020 10:33:52 PM	54107

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-25 N. Wall

Project: Red Hills Water Management System

Collection Date: 7/29/2020 11:10:00 AM

Lab ID: 2008001-051

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/7/2020 12:32:20 AM	54233
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/5/2020 9:08:57 PM	54158
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/5/2020 9:08:57 PM	54158
Surr: DNOP	80.0	30.4-154		%Rec	1	8/5/2020 9:08:57 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 10:57:18 PM	54107
Surr: BFB	101	75.3-105		%Rec	1	8/4/2020 10:57:18 PM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/4/2020 10:57:18 PM	54107
Toluene	ND	0.049		mg/Kg	1	8/4/2020 10:57:18 PM	54107
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2020 10:57:18 PM	54107
Xylenes, Total	ND	0.098		mg/Kg	1	8/4/2020 10:57:18 PM	54107
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	8/4/2020 10:57:18 PM	54107

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-25 S. Wall

Project: Red Hills Water Management System

Collection Date: 7/29/2020 11:15:00 AM

Lab ID: 2008001-052

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/7/2020 12:44:41 AM	54233
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/5/2020 9:19:12 PM	54158
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/5/2020 9:19:12 PM	54158
Surr: DNOP	65.2	30.4-154		%Rec	1	8/5/2020 9:19:12 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2020 11:20:58 PM	54107
Surr: BFB	98.4	75.3-105		%Rec	1	8/4/2020 11:20:58 PM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/4/2020 11:20:58 PM	54107
Toluene	ND	0.049		mg/Kg	1	8/4/2020 11:20:58 PM	54107
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2020 11:20:58 PM	54107
Xylenes, Total	ND	0.098		mg/Kg	1	8/4/2020 11:20:58 PM	54107
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	8/4/2020 11:20:58 PM	54107

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

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

## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-25 Floor

Project: Red Hills Water Management System

Collection Date: 7/29/2020 11:05:00 AM

Lab ID: 2008001-053

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	77	59		mg/Kg	20	8/7/2020 12:57:02 AM	54233
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/5/2020 9:29:25 PM	54158
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/5/2020 9:29:25 PM	54158
Surr: DNOP	90.5	30.4-154		%Rec	1	8/5/2020 9:29:25 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/4/2020 11:44:17 PM	54107
Surr: BFB	101	75.3-105		%Rec	1	8/4/2020 11:44:17 PM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/4/2020 11:44:17 PM	54107
Toluene	ND	0.050		mg/Kg	1	8/4/2020 11:44:17 PM	54107
Ethylbenzene	ND	0.050		mg/Kg	1	8/4/2020 11:44:17 PM	54107
Xylenes, Total	ND	0.099		mg/Kg	1	8/4/2020 11:44:17 PM	54107
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	8/4/2020 11:44:17 PM	54107

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-26 S. Wall

Project: Red Hills Water Management System

Collection Date: 7/29/2020 10:15:00 AM

Lab ID: 2008001-054

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/7/2020 1:09:23 AM	54233
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/5/2020 9:39:38 PM	54158
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/5/2020 9:39:38 PM	54158
Surr: DNOP	111	30.4-154		%Rec	1	8/5/2020 9:39:38 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/5/2020 12:07:41 AM	54107
Surr: BFB	100	75.3-105		%Rec	1	8/5/2020 12:07:41 AM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/5/2020 12:07:41 AM	54107
Toluene	ND	0.049		mg/Kg	1	8/5/2020 12:07:41 AM	54107
Ethylbenzene	ND	0.049		mg/Kg	1	8/5/2020 12:07:41 AM	54107
Xylenes, Total	ND	0.099		mg/Kg	1	8/5/2020 12:07:41 AM	54107
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	8/5/2020 12:07:41 AM	54107

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-26 N. Wall

Project: Red Hills Water Management System

Collection Date: 7/29/2020 10:00:00 AM

Lab ID: 2008001-055

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/7/2020 1:21:44 AM	54233
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/5/2020 9:49:55 PM	54158
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/5/2020 9:49:55 PM	54158
Surr: DNOP	87.6	30.4-154		%Rec	1	8/5/2020 9:49:55 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/5/2020 12:31:07 AM	54107
Surr: BFB	103	75.3-105		%Rec	1	8/5/2020 12:31:07 AM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/5/2020 12:31:07 AM	54107
Toluene	ND	0.049		mg/Kg	1	8/5/2020 12:31:07 AM	54107
Ethylbenzene	ND	0.049		mg/Kg	1	8/5/2020 12:31:07 AM	54107
Xylenes, Total	ND	0.098		mg/Kg	1	8/5/2020 12:31:07 AM	54107
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	8/5/2020 12:31:07 AM	54107

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-26 W. Wall

Project: Red Hills Water Management System

Collection Date: 7/29/2020 10:05:00 AM

Lab ID: 2008001-056

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/7/2020 1:34:04 AM	54233
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/5/2020 10:00:01 PM	54158
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/5/2020 10:00:01 PM	54158
Surr: DNOP	92.2	30.4-154		%Rec	1	8/5/2020 10:00:01 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/5/2020 12:54:44 AM	54107
Surr: BFB	99.9	75.3-105		%Rec	1	8/5/2020 12:54:44 AM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/5/2020 12:54:44 AM	54107
Toluene	ND	0.050		mg/Kg	1	8/5/2020 12:54:44 AM	54107
Ethylbenzene	ND	0.050		mg/Kg	1	8/5/2020 12:54:44 AM	54107
Xylenes, Total	ND	0.10		mg/Kg	1	8/5/2020 12:54:44 AM	54107
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	8/5/2020 12:54:44 AM	54107

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

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

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## Analytical Report

Lab Order 2008001

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-26 Floor

Project: Red Hills Water Management System

Collection Date: 7/29/2020 10:10:00 AM

Lab ID: 2008001-057

Matrix: SOIL

Received Date: 8/1/2020 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	2300	150		mg/Kg	50	8/7/2020 10:50:18 AM	54233
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/5/2020 10:10:11 PM	54158
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/5/2020 10:10:11 PM	54158
Surr: DNOP	112	30.4-154		%Rec	1	8/5/2020 10:10:11 PM	54158
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/5/2020 1:18:10 AM	54107
Surr: BFB	98.4	75.3-105		%Rec	1	8/5/2020 1:18:10 AM	54107
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/5/2020 1:18:10 AM	54107
Toluene	ND	0.050		mg/Kg	1	8/5/2020 1:18:10 AM	54107
Ethylbenzene	ND	0.050		mg/Kg	1	8/5/2020 1:18:10 AM	54107
Xylenes, Total	ND	0.10		mg/Kg	1	8/5/2020 1:18:10 AM	54107
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	8/5/2020 1:18:10 AM	54107

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

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

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008001

12-Aug-20

**Client:** Mewbourne Oil Company  
**Project:** Red Hills Water Management System

Sample ID: <b>MB-54199</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54199</b>	RunNo: <b>70859</b>								
Prep Date: <b>8/5/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467203</b>		Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-54199</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54199</b>	RunNo: <b>70859</b>								
Prep Date: <b>8/5/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467205</b>		Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.4	90	110			

Sample ID: <b>MB-54221</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54221</b>	RunNo: <b>70878</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/6/2020</b>	SeqNo: <b>2468641</b>		Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-54221</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54221</b>	RunNo: <b>70878</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/6/2020</b>	SeqNo: <b>2468642</b>		Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.0	90	110			

Sample ID: <b>MB-54232</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54232</b>	RunNo: <b>70878</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/6/2020</b>	SeqNo: <b>2468671</b>		Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-54232</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54232</b>	RunNo: <b>70878</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/6/2020</b>	SeqNo: <b>2468672</b>		Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.5	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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2008001

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>MB-54233</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>
Client ID: <b>PBS</b>	Batch ID: <b>54233</b>	RunNo: <b>70878</b>
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2468703</b> Units: <b>mg/Kg</b>
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: <b>LCS-54233</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>
Client ID: <b>LCSS</b>	Batch ID: <b>54233</b>	RunNo: <b>70878</b>
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2468704</b> Units: <b>mg/Kg</b>
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 92.3 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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008001

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>MB-54154</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54154</b>	RunNo: <b>70836</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467303</b> Units: <b>mg/Kg</b>								
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	9.9		10.00		99.1	30.4	154			

Sample ID: <b>LCS-54154</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54154</b>	RunNo: <b>70836</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467318</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	100	70	130			
Surr: DNOP	4.7		5.000		93.3	30.4	154			

Sample ID: <b>2008001-021AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>SP-11 @ Surface</b>	Batch ID: <b>54157</b>	RunNo: <b>70860</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467320</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	8.9	44.33	7.064	79.4	47.4	136			
Surr: DNOP	4.3		4.433		97.5	30.4	154			

Sample ID: <b>2008001-021AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>SP-11 @ Surface</b>	Batch ID: <b>54157</b>	RunNo: <b>70860</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467321</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.2	45.87	7.064	80.1	47.4	136	3.63	43.4	
Surr: DNOP	4.2		4.587		90.9	30.4	154	0	0	

Sample ID: <b>2008001-041AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>SP-21 @ Surface</b>	Batch ID: <b>54158</b>	RunNo: <b>70860</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467345</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	9.9	49.70	0	111	47.4	136			
Surr: DNOP	4.9		4.970		98.0	30.4	154			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008001

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>2008001-041AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>SP-21 @ Surface</b>	Batch ID: <b>54158</b>	RunNo: <b>70860</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467346</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	49.95	0	90.5	47.4	136	19.6	43.4	
Surr: DNOP	3.3		4.995		65.5	30.4	154	0	0	

Sample ID: <b>LCS-54157</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54157</b>	RunNo: <b>70860</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467390</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	105	70	130			
Surr: DNOP	5.0		5.000		99.5	30.4	154			

Sample ID: <b>LCS-54158</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54158</b>	RunNo: <b>70860</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467391</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	58	10	50.00	0	115	70	130			
Surr: DNOP	4.9		5.000		98.3	30.4	154			

Sample ID: <b>MB-54157</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54157</b>	RunNo: <b>70860</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467394</b> Units: <b>mg/Kg</b>								
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	13		10.00		131	30.4	154			

Sample ID: <b>MB-54158</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54158</b>	RunNo: <b>70860</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467395</b> Units: <b>mg/Kg</b>								
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	13		10.00		126	30.4	154			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008001

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>mb-54105</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54105</b>	RunNo: <b>70797</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/3/2020</b>	SeqNo: <b>2464447</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	75.3	105			

Sample ID: <b>lcs-54105</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54105</b>	RunNo: <b>70797</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/3/2020</b>	SeqNo: <b>2464448</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.5	72.5	106			
Surr: BFB	1100		1000		112	75.3	105			S

Sample ID: <b>2008001-002ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>SP-1 @ 3'</b>	Batch ID: <b>54105</b>	RunNo: <b>70797</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/3/2020</b>	SeqNo: <b>2464451</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.9	24.51	0	91.0	61.3	114			
Surr: BFB	1100		980.4		111	75.3	105			S

Sample ID: <b>2008001-002amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>SP-1 @ 3'</b>	Batch ID: <b>54105</b>	RunNo: <b>70797</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/3/2020</b>	SeqNo: <b>2464452</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	24.95	0	82.8	61.3	114	7.65	20	
Surr: BFB	1100		998.0		110	75.3	105	0	0	S

Sample ID: <b>mb-54107</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54107</b>	RunNo: <b>70829</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/4/2020</b>	SeqNo: <b>2466114</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	75.3	105			

Sample ID: <b>lcs-54107</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54107</b>	RunNo: <b>70829</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/4/2020</b>	SeqNo: <b>2466115</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**Qualifiers:**

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D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008001

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>Ics-54107</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54107</b>	RunNo: <b>70829</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/4/2020</b>	SeqNo: <b>2466115</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.7	72.5	106			
Surr: BFB	1100		1000		111	75.3	105			S

Sample ID: <b>2008001-042ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>SP-21 @ 2'</b>	Batch ID: <b>54107</b>	RunNo: <b>70829</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/4/2020</b>	SeqNo: <b>2466118</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	24.90	0	86.6	61.3	114			
Surr: BFB	1100		996.0		110	75.3	105			S

Sample ID: <b>2008001-042amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>SP-21 @ 2'</b>	Batch ID: <b>54107</b>	RunNo: <b>70829</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/4/2020</b>	SeqNo: <b>2466119</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	24.85	0	85.6	61.3	114	1.36	20	
Surr: BFB	1100		994.0		113	75.3	105	0	0	S

**Qualifiers:**

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D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008001

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>mb-54105</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54105</b>	RunNo: <b>70797</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/3/2020</b>	SeqNo: <b>2464489</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID: <b>LCS-54105</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54105</b>	RunNo: <b>70797</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/3/2020</b>	SeqNo: <b>2464490</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.3	80	120			
Toluene	0.93	0.050	1.000	0	93.2	80	120			
Ethylbenzene	0.94	0.050	1.000	0	94.0	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.8	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID: <b>2008001-001ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>SP-1 @ Surface</b>	Batch ID: <b>54105</b>	RunNo: <b>70797</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/3/2020</b>	SeqNo: <b>2464492</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.50	0.025	0.9891	0.01440	49.4	76.3	120			S
Toluene	0.49	0.049	0.9891	0.02502	46.7	78.5	120			S
Ethylbenzene	0.43	0.049	0.9891	0.01231	42.2	78.1	124			S
Xylenes, Total	1.3	0.099	2.967	0.03744	42.0	79.3	125			S
Surr: 4-Bromofluorobenzene	1.0		0.9891		104	80	120			

Sample ID: <b>2008001-001amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>SP-1 @ Surface</b>	Batch ID: <b>54105</b>	RunNo: <b>70797</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/3/2020</b>	SeqNo: <b>2464493</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.81	0.025	0.9891	0.01440	80.2	76.3	120	46.5	20	R
Toluene	0.83	0.049	0.9891	0.02502	81.2	78.5	120	51.8	20	R
Ethylbenzene	0.80	0.049	0.9891	0.01231	79.3	78.1	124	59.8	20	R
Xylenes, Total	2.4	0.099	2.967	0.03744	79.0	79.3	125	60.0	20	RS
Surr: 4-Bromofluorobenzene	1.0		0.9891		103	80	120	0	0	

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008001

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>mb-54107</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54107</b>	RunNo: <b>70843</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467079</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID: <b>lcs-54107</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54107</b>	RunNo: <b>70843</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467080</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.2	80	120			
Toluene	0.92	0.050	1.000	0	91.7	80	120			
Ethylbenzene	0.93	0.050	1.000	0	93.4	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.2	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		105	80	120			

Sample ID: <b>2008001-041ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>SP-21 @ Surface</b>	Batch ID: <b>54107</b>	RunNo: <b>70843</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467082</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.024	0.9737	0	89.7	76.3	120			
Toluene	0.90	0.049	0.9737	0.01567	91.2	78.5	120			
Ethylbenzene	0.91	0.049	0.9737	0	93.8	78.1	124			
Xylenes, Total	2.8	0.097	2.921	0.01856	95.1	79.3	125			
Surr: 4-Bromofluorobenzene	1.1		0.9737		111	80	120			

Sample ID: <b>2008001-041amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>SP-21 @ Surface</b>	Batch ID: <b>54107</b>	RunNo: <b>70843</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467083</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	0.9960	0	94.2	76.3	120	7.09	20	
Toluene	0.96	0.050	0.9960	0.01567	94.8	78.5	120	6.00	20	
Ethylbenzene	0.96	0.050	0.9960	0	96.3	78.1	124	4.91	20	
Xylenes, Total	2.9	0.10	2.988	0.01856	96.9	79.3	125	4.09	20	
Surr: 4-Bromofluorobenzene	1.1		0.9960		108	80	120	0	0	

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008001

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>Ics-54106</b>	SampType: <b>LCS4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>BatchQC</b>	Batch ID: <b>54106</b>	RunNo: <b>70811</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/4/2020</b>	SeqNo: <b>2465167</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	88.5	80	120			
Toluene	0.97	0.050	1.000	0	97.1	80	120			
Ethylbenzene	0.99	0.050	1.000	0	99.3	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		92.8	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.6	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.47		0.5000		94.8	70	130			

Sample ID: <b>mb-54106</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54106</b>	RunNo: <b>70811</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/4/2020</b>	SeqNo: <b>2465168</b>	Units: <b>mg/Kg</b>							
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: 1,2-Dichloroethane-d4	0.49		0.5000		98.9	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.2	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.51		0.5000		101	70	130			

Sample ID: <b>2008001-021ams</b>	SampType: <b>MS4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>SP-11 @ Surface</b>	Batch ID: <b>54106</b>	RunNo: <b>70811</b>								
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/4/2020</b>	SeqNo: <b>2465177</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	0.9881	0	92.6	71.1	115			
Toluene	0.98	0.049	0.9881	0	98.8	79.6	132			
Ethylbenzene	1.0	0.049	0.9881	0	103	83.8	134			
Xylenes, Total	3.2	0.099	2.964	0	107	82.4	132			
Surr: 1,2-Dichloroethane-d4	0.45		0.4941		91.9	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.4941		96.6	70	130			
Surr: Dibromofluoromethane	0.52		0.4941		105	70	130			
Surr: Toluene-d8	0.48		0.4941		96.8	70	130			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008001

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>2008001-021amsd</b>		SampType: <b>MSD4</b>		TestCode: <b>EPA Method 8260B: Volatiles Short List</b>						
Client ID: <b>SP-11 @ Surface</b>		Batch ID: <b>54106</b>		RunNo: <b>70811</b>						
Prep Date: <b>8/2/2020</b>		Analysis Date: <b>8/4/2020</b>		SeqNo: <b>2465178</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	0.9814	0	99.0	71.1	115	6.03	20	
Toluene	1.1	0.049	0.9814	0	107	79.6	132	7.73	20	
Ethylbenzene	1.1	0.049	0.9814	0	109	83.8	134	5.02	20	
Xylenes, Total	3.3	0.098	2.944	0	112	82.4	132	3.85	20	
Surr: 1,2-Dichloroethane-d4	0.46		0.4907		94.1	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.49		0.4907		100	70	130	0	0	
Surr: Dibromofluoromethane	0.50		0.4907		102	70	130	0	0	
Surr: Toluene-d8	0.48		0.4907		97.1	70	130	0	0	

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

Page 67 of 68

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008001

12-Aug-20

**Client:** Mewbourne Oil Company  
**Project:** Red Hills Water Management System

Sample ID: <b>ics-54106</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>54106</b>			RunNo: <b>70811</b>						
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/4/2020</b>			SeqNo: <b>2465194</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	84.9	70	130			
Surr: BFB	500		500.0		101	70	130			

Sample ID: <b>mb-54106</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>54106</b>			RunNo: <b>70811</b>						
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/4/2020</b>			SeqNo: <b>2465195</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	500		500.0		101	70	130			

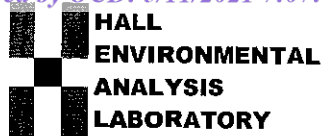
Sample ID: <b>2008001-022ams</b>	SampType: <b>MS</b>			TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>						
Client ID: <b>SP-11 @ 2'</b>	Batch ID: <b>54106</b>			RunNo: <b>70839</b>						
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/4/2020</b>			SeqNo: <b>2466655</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.8	24.18	0	83.4	49.2	122			
Surr: BFB	480		483.6		99.3	70	130			

Sample ID: <b>2008001-022amsd</b>	SampType: <b>MSD</b>			TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>						
Client ID: <b>SP-11 @ 2'</b>	Batch ID: <b>54106</b>			RunNo: <b>70839</b>						
Prep Date: <b>8/2/2020</b>	Analysis Date: <b>8/4/2020</b>			SeqNo: <b>2466656</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.44	0	85.9	49.2	122	4.09	20	
Surr: BFB	490		488.8		100	70	130	0	0	

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit



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

## Sample Log-In Check List

Client Name: **Mewbourne Oil Company**Work Order Number: **2008001**

RcptNo: 1

Received By: **Desiree Dominguez** 8/1/2020 8:30:00 AMCompleted By: **Desiree Dominguez** 8/1/2020 9:04:22 AMReviewed By: **DF 8/1/2020**

ID2

ID2

### Chain of Custody

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

### Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. Received at least 1 vial with headspace  $<1/4"$  for AQ VOA? Yes ☐ No ☐ NA ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH:

( $<2$  or  $>12$  unless noted)

Adjusted? \_\_\_\_\_

Checked by: **DAD 8/1/20**

### Special Handling (if applicable)

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

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Not Present			



Released to Imaging: 6/18/2021 4:02:15 PM

#### □ EDD (Type)

Cooler Temp (including CF):  $1.3 - 0.1 = 1.2^\circ$ 

Date: 7/30/20	Time: 16:45	Relinquished by: KFA	Received by: Via: Date Time JHau HAND 7/30/20 16:45	Remarks: Please email results to rrunnels@mewbourne.com & ben@trinityoilfieldservices.com
Date: 7/31/20	Time: 1900	Relinquished by: Acuminis	Received by: Via: Date Time [Signature] 7/31/20 855	Please contact Ben Arguijo at (575)390-7208 for any questions or problems with this COC.

[illegible]

Please contact Ben Arguijo at (575)390-7208 for any questions or problems with this COC.

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

Page 2 of 5

Received by OCD: 5/11/2021 7:07:09 AM

Page 138 of 279



Client: Mewbourne Oil Company

---

Mailing Address:

---

Phone #:

---

email or Fax#:

---

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

---

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other \_\_\_\_\_

---

☐ EDD (Type) \_\_\_\_\_

Turn-Around Time: <u>5 Day</u>	
<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> Rush _____
Project Name: Red Hills Water Management System	
Project #:	
Project Manager: Robbie Runnels	
Sampler: Kenny Angel	
On Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
# of Coolers: (	



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

[illegible]

Date: 7/30/20	Time: 16:45	Relinquished by: <i>KA</i>	Received by: <i>HRM</i> Via: <i>HANS</i> Date: 7/30/20 Time: 16:45	Remarks: Please email results to <a href="mailto:runnels@mewbourne.com">runnels@mewbourne.com</a> & <a href="mailto:ben@trinityoilfieldservices.com">ben@trinityoilfieldservices.com</a>
Date: 7/31/20	Time: 1900	Relinquished by: <i>Adams</i>	Received by: <i>Adams</i> Via: <i>Adams</i> Date: 7/31/20 Time: 050	Please contact Ben Arguijo at (575)390-7208 for any questions or problems with this COC.

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

Page 4 of 5

~~TD~~ courier 8/1/20 8:30

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

Turn-Around Time: 5 Days		
<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush		
Project Name: Red Hills Water Management System		
Project #:		
Project Manager: Robbie Runnels		
Sampler: Kenny Angel		
On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
# of Coolers: 1		
Cooler Temp (including CF): 1.3-0.1-1.2°C		
Container Type and #	Preservative Type	HEAL No.
1	Ice	-049
1	Ice	-050
1	Ice	-051
1	Ice	-052
1	Ice	-053
1	Ice	054
1	Ice	-055
1	Ice	-056
1	Ice	-057

[illegible]

Date: 7/30/20	Time: 16:45	Relinquished by: KA	Received by: HANS	Via:	Date 7/30/20	Time 16:45	Remarks: Please email results to <a href="mailto:runnels@mewbourne.com">runnels@mewbourne.com</a> & <a href="mailto:ben@trinityoilfieldservices.com">ben@trinityoilfieldservices.com</a>  Please contact Ben Arguijo at (575)390-7208 for any questions or problems with this COC.
Date: 7/31/20	Time: 1900	Relinquished by:	Received by: DOR	Via: courier	Date 8/1/20	Time 8:30	

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



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

August 12, 2020

Robbie Runnels  
Mewbourne Oil Company  
PO Box 5270  
Hobbs, NM 88241  
TEL: (575) 393-5905  
FAX:

RE: Red Hills Water Management System

OrderNo.: 2008037

Dear Robbie Runnels:

Hall Environmental Analysis Laboratory received 12 sample(s) on 8/4/2020 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](http://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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 2008037

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-19 N.Wall

Project: Red Hills Water Management System

Collection Date: 7/31/2020 10:15:00 AM

Lab ID: 2008037-001

Matrix: SOIL

Received Date: 8/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	110	60		mg/Kg	20	8/7/2020 1:18:27 PM	54256
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/6/2020 8:22:26 AM	54146
Surr: BFB	106	70-130		%Rec	1	8/6/2020 8:22:26 AM	54146
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/6/2020 2:10:41 AM	54160
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/6/2020 2:10:41 AM	54160
Surr: DNOP	130	30.4-154		%Rec	1	8/6/2020 2:10:41 AM	54160
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	8/6/2020 8:22:26 AM	54146
Toluene	ND	0.047		mg/Kg	1	8/6/2020 8:22:26 AM	54146
Ethylbenzene	ND	0.047		mg/Kg	1	8/6/2020 8:22:26 AM	54146
Xylenes, Total	ND	0.095		mg/Kg	1	8/6/2020 8:22:26 AM	54146
Surr: 1,2-Dichloroethane-d4	99.9	70-130		%Rec	1	8/6/2020 8:22:26 AM	54146
Surr: 4-Bromofluorobenzene	92.2	70-130		%Rec	1	8/6/2020 8:22:26 AM	54146
Surr: Dibromofluoromethane	105	70-130		%Rec	1	8/6/2020 8:22:26 AM	54146
Surr: Toluene-d8	99.5	70-130		%Rec	1	8/6/2020 8:22:26 AM	54146

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

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

Page 1 of 19

## Analytical Report

Lab Order 2008037

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-19 S.Wall

Project: Red Hills Water Management System

Collection Date: 7/31/2020 10:25:00 AM

Lab ID: 2008037-002

Matrix: SOIL

Received Date: 8/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	93	60		mg/Kg	20	8/7/2020 1:55:30 PM	54256
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/6/2020 8:52:04 AM	54146
Surr: BFB	105	70-130		%Rec	1	8/6/2020 8:52:04 AM	54146
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/6/2020 2:20:38 AM	54160
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/6/2020 2:20:38 AM	54160
Surr: DNOP	110	30.4-154		%Rec	1	8/6/2020 2:20:38 AM	54160
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	8/6/2020 8:52:04 AM	54146
Toluene	ND	0.049		mg/Kg	1	8/6/2020 8:52:04 AM	54146
Ethylbenzene	ND	0.049		mg/Kg	1	8/6/2020 8:52:04 AM	54146
Xylenes, Total	ND	0.098		mg/Kg	1	8/6/2020 8:52:04 AM	54146
Surr: 1,2-Dichloroethane-d4	97.1	70-130		%Rec	1	8/6/2020 8:52:04 AM	54146
Surr: 4-Bromofluorobenzene	86.7	70-130		%Rec	1	8/6/2020 8:52:04 AM	54146
Surr: Dibromofluoromethane	103	70-130		%Rec	1	8/6/2020 8:52:04 AM	54146
Surr: Toluene-d8	99.2	70-130		%Rec	1	8/6/2020 8:52:04 AM	54146

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

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

## Analytical Report

Lab Order 2008037

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-19 Floor

Project: Red Hills Water Management System

Collection Date: 7/31/2020 10:20:00 AM

Lab ID: 2008037-003

Matrix: SOIL

Received Date: 8/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	170	60		mg/Kg	20	8/7/2020 2:07:51 PM	54256
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/6/2020 9:21:54 AM	54146
Surr: BFB	105	70-130		%Rec	1	8/6/2020 9:21:54 AM	54146
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/6/2020 2:30:42 AM	54160
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/6/2020 2:30:42 AM	54160
Surr: DNOP	107	30.4-154		%Rec	1	8/6/2020 2:30:42 AM	54160
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	8/6/2020 9:21:54 AM	54146
Toluene	ND	0.048		mg/Kg	1	8/6/2020 9:21:54 AM	54146
Ethylbenzene	ND	0.048		mg/Kg	1	8/6/2020 9:21:54 AM	54146
Xylenes, Total	ND	0.096		mg/Kg	1	8/6/2020 9:21:54 AM	54146
Surr: 1,2-Dichloroethane-d4	94.7	70-130		%Rec	1	8/6/2020 9:21:54 AM	54146
Surr: 4-Bromofluorobenzene	91.4	70-130		%Rec	1	8/6/2020 9:21:54 AM	54146
Surr: Dibromofluoromethane	104	70-130		%Rec	1	8/6/2020 9:21:54 AM	54146
Surr: Toluene-d8	96.7	70-130		%Rec	1	8/6/2020 9:21:54 AM	54146

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

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

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## Analytical Report

Lab Order 2008037

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-20 N.Wall

Project: Red Hills Water Management System

Collection Date: 7/31/2020 10:00:00 AM

Lab ID: 2008037-004

Matrix: SOIL

Received Date: 8/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	190	60		mg/Kg	20	8/7/2020 2:20:12 PM	54256
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/6/2020 9:51:34 AM	54146
Surr: BFB	108	70-130		%Rec	1	8/6/2020 9:51:34 AM	54146
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/6/2020 2:40:50 AM	54160
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/6/2020 2:40:50 AM	54160
Surr: DNOP	118	30.4-154		%Rec	1	8/6/2020 2:40:50 AM	54160
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	8/6/2020 9:51:34 AM	54146
Toluene	ND	0.048		mg/Kg	1	8/6/2020 9:51:34 AM	54146
Ethylbenzene	ND	0.048		mg/Kg	1	8/6/2020 9:51:34 AM	54146
Xylenes, Total	ND	0.095		mg/Kg	1	8/6/2020 9:51:34 AM	54146
Surr: 1,2-Dichloroethane-d4	98.4	70-130		%Rec	1	8/6/2020 9:51:34 AM	54146
Surr: 4-Bromofluorobenzene	94.6	70-130		%Rec	1	8/6/2020 9:51:34 AM	54146
Surr: Dibromofluoromethane	102	70-130		%Rec	1	8/6/2020 9:51:34 AM	54146
Surr: Toluene-d8	99.6	70-130		%Rec	1	8/6/2020 9:51:34 AM	54146

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

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

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## Analytical Report

Lab Order 2008037

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-20 S.Wall

Project: Red Hills Water Management System

Collection Date: 7/31/2020 10:10:00 AM

Lab ID: 2008037-005

Matrix: SOIL

Received Date: 8/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	170	60		mg/Kg	20	8/7/2020 2:32:32 PM	54256
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/6/2020 2:50:57 AM	54160
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/6/2020 2:50:57 AM	54160
Surr: DNOP	121	30.4-154		%Rec	1	8/6/2020 2:50:57 AM	54160
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/5/2020 10:32:57 PM	54156
Surr: BFB	101	75.3-105		%Rec	1	8/5/2020 10:32:57 PM	54156
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/5/2020 10:32:57 PM	54156
Toluene	ND	0.050		mg/Kg	1	8/5/2020 10:32:57 PM	54156
Ethylbenzene	ND	0.050		mg/Kg	1	8/5/2020 10:32:57 PM	54156
Xylenes, Total	ND	0.099		mg/Kg	1	8/5/2020 10:32:57 PM	54156
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/5/2020 10:32:57 PM	54156

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

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

## Analytical Report

Lab Order 2008037

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-20 Floor

Project: Red Hills Water Management System

Collection Date: 7/31/2020 10:05:00 AM

Lab ID: 2008037-006

Matrix: SOIL

Received Date: 8/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	180	60		mg/Kg	20	8/7/2020 2:44:54 PM	54256
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/6/2020 3:01:04 AM	54160
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/6/2020 3:01:04 AM	54160
Surr: DNOP	90.7	30.4-154		%Rec	1	8/6/2020 3:01:04 AM	54160
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/5/2020 11:43:25 PM	54156
Surr: BFB	101	75.3-105		%Rec	1	8/5/2020 11:43:25 PM	54156
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/5/2020 11:43:25 PM	54156
Toluene	ND	0.047		mg/Kg	1	8/5/2020 11:43:25 PM	54156
Ethylbenzene	ND	0.047		mg/Kg	1	8/5/2020 11:43:25 PM	54156
Xylenes, Total	ND	0.093		mg/Kg	1	8/5/2020 11:43:25 PM	54156
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	8/5/2020 11:43:25 PM	54156

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

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

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## Analytical Report

Lab Order 2008037

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-21 N.Wall

Project: Red Hills Water Management System

Collection Date: 7/31/2020 9:45:00 AM

Lab ID: 2008037-007

Matrix: SOIL

Received Date: 8/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	96	61		mg/Kg	20	8/7/2020 2:57:15 PM	54256
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/6/2020 3:11:06 AM	54160
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/6/2020 3:11:06 AM	54160
Surr: DNOP	91.5	30.4-154		%Rec	1	8/6/2020 3:11:06 AM	54160
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/6/2020 12:53:36 AM	54156
Surr: BFB	99.3	75.3-105		%Rec	1	8/6/2020 12:53:36 AM	54156
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/6/2020 12:53:36 AM	54156
Toluene	ND	0.047		mg/Kg	1	8/6/2020 12:53:36 AM	54156
Ethylbenzene	ND	0.047		mg/Kg	1	8/6/2020 12:53:36 AM	54156
Xylenes, Total	ND	0.093		mg/Kg	1	8/6/2020 12:53:36 AM	54156
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	8/6/2020 12:53:36 AM	54156

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

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

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## Analytical Report

Lab Order 2008037

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-21 S.Wall

Project: Red Hills Water Management System

Collection Date: 7/31/2020 9:50:00 AM

Lab ID: 2008037-008

Matrix: SOIL

Received Date: 8/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	190	60		mg/Kg	20	8/7/2020 3:09:36 PM	54256
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/6/2020 11:49:38 PM	54194
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/6/2020 11:49:38 PM	54194
Surr: DNOP	119	30.4-154		%Rec	1	8/6/2020 11:49:38 PM	54194
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/6/2020 1:17:03 AM	54156
Surr: BFB	102	75.3-105		%Rec	1	8/6/2020 1:17:03 AM	54156
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/6/2020 1:17:03 AM	54156
Toluene	ND	0.048		mg/Kg	1	8/6/2020 1:17:03 AM	54156
Ethylbenzene	ND	0.048		mg/Kg	1	8/6/2020 1:17:03 AM	54156
Xylenes, Total	ND	0.096		mg/Kg	1	8/6/2020 1:17:03 AM	54156
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	8/6/2020 1:17:03 AM	54156

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

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

## Analytical Report

Lab Order 2008037

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-21 Floor

Project: Red Hills Water Management System

Collection Date: 7/31/2020 9:55:00 AM

Lab ID: 2008037-009

Matrix: SOIL

Received Date: 8/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	180	60		mg/Kg	20	8/7/2020 3:21:57 PM	54256
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/7/2020 1:02:51 AM	54194
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/7/2020 1:02:51 AM	54194
Surr: DNOP	104	30.4-154		%Rec	1	8/7/2020 1:02:51 AM	54194
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/6/2020 1:40:26 AM	54156
Surr: BFB	99.7	75.3-105		%Rec	1	8/6/2020 1:40:26 AM	54156
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/6/2020 1:40:26 AM	54156
Toluene	ND	0.050		mg/Kg	1	8/6/2020 1:40:26 AM	54156
Ethylbenzene	ND	0.050		mg/Kg	1	8/6/2020 1:40:26 AM	54156
Xylenes, Total	ND	0.10		mg/Kg	1	8/6/2020 1:40:26 AM	54156
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	8/6/2020 1:40:26 AM	54156

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

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

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## Analytical Report

Lab Order 2008037

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-22 N. Wall

Project: Red Hills Water Management System

Collection Date: 7/31/2020 9:35:00 AM

Lab ID: 2008037-010

Matrix: SOIL

Received Date: 8/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	93	60		mg/Kg	20	8/7/2020 3:34:18 PM	54256
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/7/2020 1:27:05 AM	54194
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/7/2020 1:27:05 AM	54194
Surr: DNOP	116	30.4-154		%Rec	1	8/7/2020 1:27:05 AM	54194
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/6/2020 3:14:41 AM	54156
Surr: BFB	99.7	75.3-105		%Rec	1	8/6/2020 3:14:41 AM	54156
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/6/2020 3:14:41 AM	54156
Toluene	ND	0.050		mg/Kg	1	8/6/2020 3:14:41 AM	54156
Ethylbenzene	ND	0.050		mg/Kg	1	8/6/2020 3:14:41 AM	54156
Xylenes, Total	ND	0.10		mg/Kg	1	8/6/2020 3:14:41 AM	54156
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	8/6/2020 3:14:41 AM	54156

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

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

## Analytical Report

Lab Order 2008037

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-22 S. Wall

Project: Red Hills Water Management System

Collection Date: 7/31/2020 9:40:00 AM

Lab ID: 2008037-011

Matrix: SOIL

Received Date: 8/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	120	60		mg/Kg	20	8/7/2020 3:46:39 PM	54256
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/7/2020 1:51:28 AM	54194
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/7/2020 1:51:28 AM	54194
Surr: DNOP	111	30.4-154		%Rec	1	8/7/2020 1:51:28 AM	54194
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/6/2020 3:38:13 AM	54156
Surr: BFB	101	75.3-105		%Rec	1	8/6/2020 3:38:13 AM	54156
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/6/2020 3:38:13 AM	54156
Toluene	ND	0.048		mg/Kg	1	8/6/2020 3:38:13 AM	54156
Ethylbenzene	ND	0.048		mg/Kg	1	8/6/2020 3:38:13 AM	54156
Xylenes, Total	ND	0.095		mg/Kg	1	8/6/2020 3:38:13 AM	54156
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/6/2020 3:38:13 AM	54156

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

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

## Analytical Report

Lab Order 2008037

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-22 Floor

Project: Red Hills Water Management System

Collection Date: 7/31/2020 9:30:00 AM

Lab ID: 2008037-012

Matrix: SOIL

Received Date: 8/4/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	87	60		mg/Kg	20	8/7/2020 4:23:41 PM	54256
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/7/2020 2:15:46 AM	54194
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/7/2020 2:15:46 AM	54194
Surr: DNOP	109	30.4-154		%Rec	1	8/7/2020 2:15:46 AM	54194
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/6/2020 4:01:40 AM	54156
Surr: BFB	101	75.3-105		%Rec	1	8/6/2020 4:01:40 AM	54156
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/6/2020 4:01:40 AM	54156
Toluene	ND	0.047		mg/Kg	1	8/6/2020 4:01:40 AM	54156
Ethylbenzene	ND	0.047		mg/Kg	1	8/6/2020 4:01:40 AM	54156
Xylenes, Total	ND	0.093		mg/Kg	1	8/6/2020 4:01:40 AM	54156
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/6/2020 4:01:40 AM	54156

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

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

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008037

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>MB-54256</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54256</b>	RunNo: <b>70901</b>								
Prep Date: <b>8/7/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2470133</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-54256</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54256</b>	RunNo: <b>70901</b>								
Prep Date: <b>8/7/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2470135</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.9	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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008037

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>LCS-54160</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54160</b>	RunNo: <b>70860</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467392</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	10	50.00	0	110	70	130			
Surr: DNOP	4.8		5.000		95.1	30.4	154			

Sample ID: <b>MB-54160</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54160</b>	RunNo: <b>70860</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467396</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		109	30.4	154			

Sample ID: <b>2008037-008AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>SP-21 S.Wall</b>	Batch ID: <b>54194</b>	RunNo: <b>70867</b>								
Prep Date: <b>8/5/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2468865</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	9.9	49.46	0	104	47.4	136			
Surr: DNOP	5.2		4.946		105	30.4	154			

Sample ID: <b>2008037-008AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>SP-21 S.Wall</b>	Batch ID: <b>54194</b>	RunNo: <b>70867</b>								
Prep Date: <b>8/5/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2468866</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.4	47.13	0	91.0	47.4	136	17.8	43.4	
Surr: DNOP	4.4		4.713		93.3	30.4	154	0	0	

Sample ID: <b>LCS-54194</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54194</b>	RunNo: <b>70867</b>								
Prep Date: <b>8/5/2020</b>	Analysis Date: <b>8/6/2020</b>	SeqNo: <b>2468875</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	10	50.00	0	120	70	130			
Surr: DNOP	6.4		5.000		128	30.4	154			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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QC SUMMARY REPORT  
Hall Environmental Analysis Laboratory, Inc.

WO#: 2008037  
12-Aug-20

Client: Mewbourne Oil Company  
Project: Red Hills Water Management System

Sample ID: MB-54194	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 54194	RunNo: 70867								
Prep Date: 8/5/2020	Analysis Date: 8/6/2020	SeqNo: 2468876		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		120	30.4	154			

Qualifiers:

- \*

Value exceeds Maximum Contaminant Level.
- D

Sample Diluted Due to Matrix
- H

Holding times for preparation or analysis exceeded
- ND

Not Detected at the Reporting Limit
- PQL

Practical Quantitative Limit
- S

% Recovery outside of range due to dilution or matrix
- B

Analyte detected in the associated Method Blank
- E

Value above quantitation range
- J

Analyte detected below quantitation limits
- P

Sample pH Not In Range
- RL

Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008037

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>mb-54156</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54156</b>	RunNo: <b>70843</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/6/2020</b>	SeqNo: <b>2467044</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	75.3	105			

Sample ID: <b>lcs-54156</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54156</b>	RunNo: <b>70843</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467045</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.5	72.5	106			
Surr: BFB	1100		1000		111	75.3	105			S

Sample ID: <b>2008037-005ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>SP-20 S.Wall</b>	Batch ID: <b>54156</b>	RunNo: <b>70843</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467047</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	24.93	0	88.1	61.3	114			
Surr: BFB	1100		997.0		112	75.3	105			S

Sample ID: <b>2008037-005amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>SP-20 S.Wall</b>	Batch ID: <b>54156</b>	RunNo: <b>70843</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467048</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.8	23.95	0	89.2	61.3	114	2.83	20	
Surr: BFB	1100		957.9		111	75.3	105	0	0	S

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008037

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>mb-54156</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54156</b>	RunNo: <b>70843</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/6/2020</b>	SeqNo: <b>2467092</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		105	80	120			

Sample ID: <b>LCS-54156</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54156</b>	RunNo: <b>70843</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467093</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.2	80	120			
Toluene	0.96	0.050	1.000	0	95.9	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.3	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.2	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID: <b>2008037-006ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>SP-20 Floor</b>	Batch ID: <b>54156</b>	RunNo: <b>70843</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/6/2020</b>	SeqNo: <b>2467096</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.023	0.9372	0	95.8	76.3	120			
Toluene	0.92	0.047	0.9372	0.01000	97.0	78.5	120			
Ethylbenzene	0.94	0.047	0.9372	0	99.9	78.1	124			
Xylenes, Total	2.8	0.094	2.812	0	101	79.3	125			
Surr: 4-Bromofluorobenzene	1.0		0.9372		107	80	120			

Sample ID: <b>2008037-006amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>SP-20 Floor</b>	Batch ID: <b>54156</b>	RunNo: <b>70843</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/6/2020</b>	SeqNo: <b>2467097</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.024	0.9785	0	99.2	76.3	120	7.80	20	
Toluene	1.0	0.049	0.9785	0.01000	102	78.5	120	8.86	20	
Ethylbenzene	1.0	0.049	0.9785	0	105	78.1	124	9.43	20	
Xylenes, Total	3.1	0.098	2.935	0	105	79.3	125	8.64	20	
Surr: 4-Bromofluorobenzene	1.1		0.9785		110	80	120	0	0	

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008037

12-Aug-20

**Client:** Mewbourne Oil Company  
**Project:** Red Hills Water Management System

Sample ID: <b>Ics-54146</b>	SampType: <b>LCS4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>BatchQC</b>	Batch ID: <b>54146</b>	RunNo: <b>70866</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467903</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	106	80	120			
Toluene	1.1	0.050	1.000	0	108	80	120			
Ethylbenzene	1.1	0.050	1.000	0	109	80	120			
Xylenes, Total	3.2	0.10	3.000	0	107	80	120			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.8	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.5	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		100	70	130			
Surr: Toluene-d8	0.50		0.5000		100	70	130			

Sample ID: <b>mb-54146</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54146</b>	RunNo: <b>70866</b>								
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>	SeqNo: <b>2467904</b>	Units: <b>mg/Kg</b>							
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: 1,2-Dichloroethane-d4	0.48		0.5000		95.9	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.5000		90.7	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		101	70	130			
Surr: Toluene-d8	0.49		0.5000		98.7	70	130			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008037

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

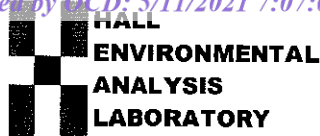
Sample ID: <b>lcs-54146</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>54146</b>			RunNo: <b>70866</b>						
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>			SeqNo: <b>2467929</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	90.0	70	130			
Surr: BFB	520		500.0		104	70	130			

Sample ID: <b>mb-54146</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>54146</b>			RunNo: <b>70866</b>						
Prep Date: <b>8/4/2020</b>	Analysis Date: <b>8/5/2020</b>			SeqNo: <b>2467930</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	550		500.0		109	70	130			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit



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

## Sample Log-In Check List

Client Name: Mewbourne Oil Company

Work Order Number: 2008037

RcptNo: 1

Received By: Emily Mocho

8/4/2020 8:00:00 AM

Completed By: Isaiah Ortiz

8/4/2020 8:57:44 AM

Reviewed By: LB

8/4/20

I-0X

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐  
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐  
5. Sample(s) in proper container(s)? Yes ☒ No ☐  
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐  
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐  
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐  
9. Received at least 1 vial with headspace  $<1/4"$  for AQ VOA? Yes ☐ No ☐ NA ☒  
10. Were any sample containers received broken? Yes ☐ No ☒  
11. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐  
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐  
13. Is it clear what analyses were requested? Yes ☒ No ☐  
14. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH:

(<2 or >12 unless noted)

Adjusted? \_\_\_\_\_

Checked by: SPA 8.4.20

Special Handling (if applicable)

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

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

16. Additional remarks:

17. Cooler Information

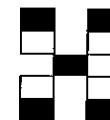
Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Not Present			

Released to Imaging: 6/18/2021 4:02:15 PM

5 days

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice

8/3/20 1900 *[Signature]* Green Courier 8/4/20 8:00



[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

[illegible]

Received by OCD: 5/11/2021 7:07:09 AM

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Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

August 12, 2020

Robbie Runnels  
Mewbourne Oil Company  
PO Box 5270  
Hobbs, NM 88241  
TEL: (575) 393-5905  
FAX:

RE: Red Hills Water Management System

OrderNo.: 2008138

Dear Robbie Runnels:

Hall Environmental Analysis Laboratory received 7 sample(s) on 8/5/2020 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](http://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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 2008138

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-17 N. Wall

Project: Red Hills Water Management System

Collection Date: 8/3/2020 11:20:00 AM

Lab ID: 2008138-001

Matrix: SOIL

Received Date: 8/5/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	60		mg/Kg	20	8/9/2020 10:25:26 PM	54282
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/7/2020 5:35:16 PM	54208
Surr: BFB	104	70-130		%Rec	1	8/7/2020 5:35:16 PM	54208
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/7/2020 3:20:02 PM	54218
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/7/2020 3:20:02 PM	54218
Surr: DNOP	101	30.4-154		%Rec	1	8/7/2020 3:20:02 PM	54218
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	8/7/2020 5:35:16 PM	54208
Toluene	ND	0.049		mg/Kg	1	8/7/2020 5:35:16 PM	54208
Ethylbenzene	ND	0.049		mg/Kg	1	8/7/2020 5:35:16 PM	54208
Xylenes, Total	ND	0.099		mg/Kg	1	8/7/2020 5:35:16 PM	54208
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	8/7/2020 5:35:16 PM	54208
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	8/7/2020 5:35:16 PM	54208
Surr: Dibromofluoromethane	109	70-130		%Rec	1	8/7/2020 5:35:16 PM	54208
Surr: Toluene-d8	102	70-130		%Rec	1	8/7/2020 5:35:16 PM	54208

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

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

Page 1 of 11

## Analytical Report

Lab Order 2008138

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-17 S. Wall

Project: Red Hills Water Management System

Collection Date: 8/3/2020 11:15:00 AM

Lab ID: 2008138-002

Matrix: SOIL

Received Date: 8/5/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	60		mg/Kg	20	8/9/2020 10:37:50 PM	54282
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/7/2020 6:03:47 PM	54208
Surr: BFB	102	70-130		%Rec	1	8/7/2020 6:03:47 PM	54208
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/7/2020 3:44:05 PM	54218
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/7/2020 3:44:05 PM	54218
Surr: DNOP	101	30.4-154		%Rec	1	8/7/2020 3:44:05 PM	54218
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/7/2020 6:03:47 PM	54208
Toluene	ND	0.049		mg/Kg	1	8/7/2020 6:03:47 PM	54208
Ethylbenzene	ND	0.049		mg/Kg	1	8/7/2020 6:03:47 PM	54208
Xylenes, Total	ND	0.098		mg/Kg	1	8/7/2020 6:03:47 PM	54208
Surr: 1,2-Dichloroethane-d4	95.8	70-130		%Rec	1	8/7/2020 6:03:47 PM	54208
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/7/2020 6:03:47 PM	54208
Surr: Dibromofluoromethane	109	70-130		%Rec	1	8/7/2020 6:03:47 PM	54208
Surr: Toluene-d8	97.7	70-130		%Rec	1	8/7/2020 6:03:47 PM	54208

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

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

## Analytical Report

Lab Order 2008138

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-17 Floor

Project: Red Hills Water Management System

Collection Date: 8/3/2020 11:25:00 AM

Lab ID: 2008138-003

Matrix: SOIL

Received Date: 8/5/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	60		mg/Kg	20	8/9/2020 10:50:15 PM	54282
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/7/2020 6:32:18 PM	54208
Surr: BFB	101	70-130		%Rec	1	8/7/2020 6:32:18 PM	54208
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/7/2020 4:08:07 PM	54218
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/7/2020 4:08:07 PM	54218
Surr: DNOP	93.1	30.4-154		%Rec	1	8/7/2020 4:08:07 PM	54218
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/7/2020 6:32:18 PM	54208
Toluene	ND	0.049		mg/Kg	1	8/7/2020 6:32:18 PM	54208
Ethylbenzene	ND	0.049		mg/Kg	1	8/7/2020 6:32:18 PM	54208
Xylenes, Total	ND	0.097		mg/Kg	1	8/7/2020 6:32:18 PM	54208
Surr: 1,2-Dichloroethane-d4	98.4	70-130		%Rec	1	8/7/2020 6:32:18 PM	54208
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	8/7/2020 6:32:18 PM	54208
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/7/2020 6:32:18 PM	54208
Surr: Toluene-d8	100	70-130		%Rec	1	8/7/2020 6:32:18 PM	54208

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

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

## Analytical Report

Lab Order 2008138

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-18 N. Wall

Project: Red Hills Water Management System

Collection Date: 8/3/2020 11:00:00 AM

Lab ID: 2008138-004

Matrix: SOIL

Received Date: 8/5/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	60		mg/Kg	20	8/9/2020 11:27:29 PM	54282
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/7/2020 7:00:48 PM	54208
Surr: BFB	104	70-130		%Rec	1	8/7/2020 7:00:48 PM	54208
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/7/2020 4:32:07 PM	54218
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/7/2020 4:32:07 PM	54218
Surr: DNOP	114	30.4-154		%Rec	1	8/7/2020 4:32:07 PM	54218
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/7/2020 7:00:48 PM	54208
Toluene	ND	0.049		mg/Kg	1	8/7/2020 7:00:48 PM	54208
Ethylbenzene	ND	0.049		mg/Kg	1	8/7/2020 7:00:48 PM	54208
Xylenes, Total	ND	0.097		mg/Kg	1	8/7/2020 7:00:48 PM	54208
Surr: 1,2-Dichloroethane-d4	93.2	70-130		%Rec	1	8/7/2020 7:00:48 PM	54208
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	8/7/2020 7:00:48 PM	54208
Surr: Dibromofluoromethane	103	70-130		%Rec	1	8/7/2020 7:00:48 PM	54208
Surr: Toluene-d8	102	70-130		%Rec	1	8/7/2020 7:00:48 PM	54208

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

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

## Analytical Report

Lab Order 2008138

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-18 S.Wall

Project: Red Hills Water Management System

Collection Date: 8/3/2020 11:05:00 AM

Lab ID: 2008138-005

Matrix: SOIL

Received Date: 8/5/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	59		mg/Kg	20	8/9/2020 11:39:53 PM	54282
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/7/2020 7:29:17 PM	54208
Surr: BFB	104	70-130		%Rec	1	8/7/2020 7:29:17 PM	54208
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/7/2020 4:56:07 PM	54218
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/7/2020 4:56:07 PM	54218
Surr: DNOP	112	30.4-154		%Rec	1	8/7/2020 4:56:07 PM	54218
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.023		mg/Kg	1	8/7/2020 7:29:17 PM	54208
Toluene	ND	0.046		mg/Kg	1	8/7/2020 7:29:17 PM	54208
Ethylbenzene	ND	0.046		mg/Kg	1	8/7/2020 7:29:17 PM	54208
Xylenes, Total	ND	0.092		mg/Kg	1	8/7/2020 7:29:17 PM	54208
Surr: 1,2-Dichloroethane-d4	97.9	70-130		%Rec	1	8/7/2020 7:29:17 PM	54208
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/7/2020 7:29:17 PM	54208
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/7/2020 7:29:17 PM	54208
Surr: Toluene-d8	101	70-130		%Rec	1	8/7/2020 7:29:17 PM	54208

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

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

## Analytical Report

Lab Order 2008138

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-18 Floor

Project: Red Hills Water Management System

Collection Date: 8/3/2020 11:10:00 AM

Lab ID: 2008138-006

Matrix: SOIL

Received Date: 8/5/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	ND	60		mg/Kg	20	8/10/2020 4:45:47 PM	54292
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/7/2020 7:57:48 PM	54208
Surr: BFB	103	70-130		%Rec	1	8/7/2020 7:57:48 PM	54208
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/7/2020 5:20:14 PM	54218
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/7/2020 5:20:14 PM	54218
Surr: DNOP	130	30.4-154		%Rec	1	8/7/2020 5:20:14 PM	54218
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.024		mg/Kg	1	8/7/2020 7:57:48 PM	54208
Toluene	ND	0.049		mg/Kg	1	8/7/2020 7:57:48 PM	54208
Ethylbenzene	ND	0.049		mg/Kg	1	8/7/2020 7:57:48 PM	54208
Xylenes, Total	ND	0.097		mg/Kg	1	8/7/2020 7:57:48 PM	54208
Surr: 1,2-Dichloroethane-d4	98.7	70-130		%Rec	1	8/7/2020 7:57:48 PM	54208
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	8/7/2020 7:57:48 PM	54208
Surr: Dibromofluoromethane	106	70-130		%Rec	1	8/7/2020 7:57:48 PM	54208
Surr: Toluene-d8	101	70-130		%Rec	1	8/7/2020 7:57:48 PM	54208

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

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

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## Analytical Report

Lab Order 2008138

Date Reported: 8/12/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-26 @4.25'

Project: Red Hills Water Management System

Collection Date: 8/3/2020 11:30:00 AM

Lab ID: 2008138-007

Matrix: SOIL

Received Date: 8/5/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JMT
Chloride	81	60		mg/Kg	20	8/10/2020 4:58:11 PM	54292
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/7/2020 8:26:16 PM	54208
Surr: BFB	105	70-130		%Rec	1	8/7/2020 8:26:16 PM	54208
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/7/2020 5:44:21 PM	54218
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/7/2020 5:44:21 PM	54218
Surr: DNOP	88.3	30.4-154		%Rec	1	8/7/2020 5:44:21 PM	54218
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	8/7/2020 8:26:16 PM	54208
Toluene	ND	0.050		mg/Kg	1	8/7/2020 8:26:16 PM	54208
Ethylbenzene	ND	0.050		mg/Kg	1	8/7/2020 8:26:16 PM	54208
Xylenes, Total	ND	0.10		mg/Kg	1	8/7/2020 8:26:16 PM	54208
Surr: 1,2-Dichloroethane-d4	95.2	70-130		%Rec	1	8/7/2020 8:26:16 PM	54208
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	8/7/2020 8:26:16 PM	54208
Surr: Dibromofluoromethane	100	70-130		%Rec	1	8/7/2020 8:26:16 PM	54208
Surr: Toluene-d8	101	70-130		%Rec	1	8/7/2020 8:26:16 PM	54208

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

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

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008138

12-Aug-20

**Client:** Mewbourne Oil Company  
**Project:** Red Hills Water Management System

Sample ID: <b>MB-54282</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54282</b>	RunNo: <b>70943</b>								
Prep Date: <b>8/9/2020</b>	Analysis Date: <b>8/9/2020</b>	SeqNo: <b>2471213</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-54282</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54282</b>	RunNo: <b>70943</b>								
Prep Date: <b>8/9/2020</b>	Analysis Date: <b>8/9/2020</b>	SeqNo: <b>2471214</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.8	90	110			

Sample ID: <b>MB-54292</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54292</b>	RunNo: <b>70965</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/10/2020</b>	SeqNo: <b>2472350</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-54292</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54292</b>	RunNo: <b>70965</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/10/2020</b>	SeqNo: <b>2472351</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.3	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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

Page 8 of 11

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008138

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>MB-54218</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54218</b>	RunNo: <b>70908</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2472495</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		109	30.4	154			

Sample ID: <b>LCS-54218</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54218</b>	RunNo: <b>70908</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2472496</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	56	10	50.00	0	113	70	130			
Surr: DNOP	5.4		5.000		108	30.4	154			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008138

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>mb-54208</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54208</b>	RunNo: <b>70903</b>								
Prep Date: <b>8/5/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2469567</b>	Units: <b>mg/Kg</b>							
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: 1,2-Dichloroethane-d4	0.49		0.5000		98.5	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		106	70	130			
Surr: Toluene-d8	0.49		0.5000		98.4	70	130			

Sample ID: <b>lcs-54208</b>	SampType: <b>LCS4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>BatchQC</b>	Batch ID: <b>54208</b>	RunNo: <b>70903</b>								
Prep Date: <b>8/5/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2469568</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	97.8	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.2	0.10	3.000	0	106	80	120			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		102	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.8	70	130			
Surr: Dibromofluoromethane	0.56		0.5000		112	70	130			
Surr: Toluene-d8	0.49		0.5000		97.4	70	130			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008138

12-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>mb-54208</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54208</b>	RunNo: <b>70903</b>								
Prep Date: <b>8/5/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2469599</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	510		500.0		102	70	130			

Sample ID: <b>lcs-54208</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54208</b>	RunNo: <b>70903</b>								
Prep Date: <b>8/5/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2469600</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.8	70	130			
Surr: BFB	520		500.0		104	70	130			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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

## Sample Log-In Check List

Client Name: Mewbourne Oil Company

Work Order Number: 2008138

RcptNo: 1

Received By: Juan Rojas 8/5/2020 8:00:00 AM

Completed By: Juan Rojas 8/5/2020 9:44:54 AM

Reviewed By: em 8/5/20

### Chain of Custody

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

### Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐  
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐  
5. Sample(s) in proper container(s)? Yes ☒ No ☐  
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐  
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐  
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐  
9. Received at least 1 vial with headspace  $<1/4$ " for AQ VOA? Yes ☐ No ☐ NA ☒  
10. Were any sample containers received broken? Yes ☐ No ☒  
11. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐  
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐  
13. Is it clear what analyses were requested? Yes ☒ No ☐  
14. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved bottles checked for pH: \_\_\_\_\_  
( $<2$  or  $>12$  unless noted)  
Adjusted? \_\_\_\_\_  
Checked by: Cmc 8/5/20

### Special Handling (if applicable)

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

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

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0	Good				
2	0.1	Good				





Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

August 13, 2020

Robbie Runnels  
Mewbourne Oil Company  
PO Box 5270  
Hobbs, NM 88241  
TEL: (575) 393-5905  
FAX:

RE: Red Hills Water Management System

OrderNo.: 2008246

Dear Robbie Runnels:

Hall Environmental Analysis Laboratory received 34 sample(s) on 8/6/2020 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](http://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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-1 N. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 8:40:00 AM

Lab ID: 2008246-001

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	740	61		mg/Kg	20	8/11/2020 11:10:29 AM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/8/2020 2:36:53 AM	54234
Surr: BFB	99.0	70-130		%Rec	1	8/8/2020 2:36:53 AM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/7/2020 4:53:34 PM	54240
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/7/2020 4:53:34 PM	54240
Surr: DNOP	111	30.4-154		%Rec	1	8/7/2020 4:53:34 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	8/8/2020 2:36:53 AM	54234
Toluene	ND	0.049		mg/Kg	1	8/8/2020 2:36:53 AM	54234
Ethylbenzene	ND	0.049		mg/Kg	1	8/8/2020 2:36:53 AM	54234
Xylenes, Total	ND	0.099		mg/Kg	1	8/8/2020 2:36:53 AM	54234
Surr: 1,2-Dichloroethane-d4	95.6	70-130		%Rec	1	8/8/2020 2:36:53 AM	54234
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/8/2020 2:36:53 AM	54234
Surr: Dibromofluoromethane	106	70-130		%Rec	1	8/8/2020 2:36:53 AM	54234
Surr: Toluene-d8	101	70-130		%Rec	1	8/8/2020 2:36:53 AM	54234

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-1 E. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 8:35:00 AM

Lab ID: 2008246-002

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	200	60		mg/Kg	20	8/11/2020 11:47:32 AM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/8/2020 4:02:25 AM	54234
Surr: BFB	101	70-130		%Rec	1	8/8/2020 4:02:25 AM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/7/2020 5:23:20 PM	54240
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/7/2020 5:23:20 PM	54240
Surr: DNOP	109	30.4-154		%Rec	1	8/7/2020 5:23:20 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	8/8/2020 4:02:25 AM	54234
Toluene	ND	0.049		mg/Kg	1	8/8/2020 4:02:25 AM	54234
Ethylbenzene	ND	0.049		mg/Kg	1	8/8/2020 4:02:25 AM	54234
Xylenes, Total	ND	0.099		mg/Kg	1	8/8/2020 4:02:25 AM	54234
Surr: 1,2-Dichloroethane-d4	98.6	70-130		%Rec	1	8/8/2020 4:02:25 AM	54234
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/8/2020 4:02:25 AM	54234
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/8/2020 4:02:25 AM	54234
Surr: Toluene-d8	98.5	70-130		%Rec	1	8/8/2020 4:02:25 AM	54234

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

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

## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-1 W. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 8:30:00 AM

Lab ID: 2008246-003

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	160	60		mg/Kg	20	8/11/2020 12:24:36 PM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/8/2020 5:28:19 AM	54234
Surr: BFB	93.3	70-130		%Rec	1	8/8/2020 5:28:19 AM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/7/2020 5:33:23 PM	54240
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/7/2020 5:33:23 PM	54240
Surr: DNOP	105	30.4-154		%Rec	1	8/7/2020 5:33:23 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	8/8/2020 5:28:19 AM	54234
Toluene	ND	0.049		mg/Kg	1	8/8/2020 5:28:19 AM	54234
Ethylbenzene	ND	0.049		mg/Kg	1	8/8/2020 5:28:19 AM	54234
Xylenes, Total	ND	0.099		mg/Kg	1	8/8/2020 5:28:19 AM	54234
Surr: 1,2-Dichloroethane-d4	91.7	70-130		%Rec	1	8/8/2020 5:28:19 AM	54234
Surr: 4-Bromofluorobenzene	95.9	70-130		%Rec	1	8/8/2020 5:28:19 AM	54234
Surr: Dibromofluoromethane	101	70-130		%Rec	1	8/8/2020 5:28:19 AM	54234
Surr: Toluene-d8	95.1	70-130		%Rec	1	8/8/2020 5:28:19 AM	54234

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-1 Floor

Project: Red Hills Water Management System

Collection Date: 8/4/2020 8:45:00 AM

Lab ID: 2008246-004

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	380	60		mg/Kg	20	8/11/2020 12:36:57 PM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/8/2020 5:56:53 AM	54234
Surr: BFB	95.4	70-130		%Rec	1	8/8/2020 5:56:53 AM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/7/2020 5:43:28 PM	54240
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/7/2020 5:43:28 PM	54240
Surr: DNOP	100	30.4-154		%Rec	1	8/7/2020 5:43:28 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	8/8/2020 5:56:53 AM	54234
Toluene	ND	0.049		mg/Kg	1	8/8/2020 5:56:53 AM	54234
Ethylbenzene	ND	0.049		mg/Kg	1	8/8/2020 5:56:53 AM	54234
Xylenes, Total	ND	0.098		mg/Kg	1	8/8/2020 5:56:53 AM	54234
Surr: 1,2-Dichloroethane-d4	97.7	70-130		%Rec	1	8/8/2020 5:56:53 AM	54234
Surr: 4-Bromofluorobenzene	97.4	70-130		%Rec	1	8/8/2020 5:56:53 AM	54234
Surr: Dibromofluoromethane	104	70-130		%Rec	1	8/8/2020 5:56:53 AM	54234
Surr: Toluene-d8	97.1	70-130		%Rec	1	8/8/2020 5:56:53 AM	54234

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

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

## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-2 E.Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 8:55:00 AM

Lab ID: 2008246-005

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	220	60		mg/Kg	20	8/11/2020 12:49:18 PM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/8/2020 6:25:30 AM	54234
Surr: BFB	98.8	70-130		%Rec	1	8/8/2020 6:25:30 AM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/7/2020 5:53:33 PM	54240
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/7/2020 5:53:33 PM	54240
Surr: DNOP	95.4	30.4-154		%Rec	1	8/7/2020 5:53:33 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/8/2020 6:25:30 AM	54234
Toluene	ND	0.048		mg/Kg	1	8/8/2020 6:25:30 AM	54234
Ethylbenzene	ND	0.048		mg/Kg	1	8/8/2020 6:25:30 AM	54234
Xylenes, Total	ND	0.097		mg/Kg	1	8/8/2020 6:25:30 AM	54234
Surr: 1,2-Dichloroethane-d4	98.8	70-130		%Rec	1	8/8/2020 6:25:30 AM	54234
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	8/8/2020 6:25:30 AM	54234
Surr: Dibromofluoromethane	105	70-130		%Rec	1	8/8/2020 6:25:30 AM	54234
Surr: Toluene-d8	98.2	70-130		%Rec	1	8/8/2020 6:25:30 AM	54234

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-2 W. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 8:50:00 AM

Lab ID: 2008246-006

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	170	60		mg/Kg	20	8/11/2020 1:01:40 PM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/8/2020 6:54:05 AM	54234
Surr: BFB	99.7	70-130		%Rec	1	8/8/2020 6:54:05 AM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/7/2020 6:03:40 PM	54240
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/7/2020 6:03:40 PM	54240
Surr: DNOP	103	30.4-154		%Rec	1	8/7/2020 6:03:40 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	8/8/2020 6:54:05 AM	54234
Toluene	ND	0.049		mg/Kg	1	8/8/2020 6:54:05 AM	54234
Ethylbenzene	ND	0.049		mg/Kg	1	8/8/2020 6:54:05 AM	54234
Xylenes, Total	ND	0.099		mg/Kg	1	8/8/2020 6:54:05 AM	54234
Surr: 1,2-Dichloroethane-d4	97.0	70-130		%Rec	1	8/8/2020 6:54:05 AM	54234
Surr: 4-Bromofluorobenzene	95.9	70-130		%Rec	1	8/8/2020 6:54:05 AM	54234
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/8/2020 6:54:05 AM	54234
Surr: Toluene-d8	102	70-130		%Rec	1	8/8/2020 6:54:05 AM	54234

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

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

## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-2 Floor

Project: Red Hills Water Management System

Collection Date: 8/4/2020 9:00:00 AM

Lab ID: 2008246-007

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	3400	150		mg/Kg	50	8/12/2020 11:32:47 PM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/8/2020 7:22:37 AM	54234
Surr: BFB	100	70-130		%Rec	1	8/8/2020 7:22:37 AM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/7/2020 6:13:49 PM	54240
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/7/2020 6:13:49 PM	54240
Surr: DNOP	99.3	30.4-154		%Rec	1	8/7/2020 6:13:49 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	8/8/2020 7:22:37 AM	54234
Toluene	ND	0.049		mg/Kg	1	8/8/2020 7:22:37 AM	54234
Ethylbenzene	ND	0.049		mg/Kg	1	8/8/2020 7:22:37 AM	54234
Xylenes, Total	ND	0.099		mg/Kg	1	8/8/2020 7:22:37 AM	54234
Surr: 1,2-Dichloroethane-d4	93.7	70-130		%Rec	1	8/8/2020 7:22:37 AM	54234
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/8/2020 7:22:37 AM	54234
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/8/2020 7:22:37 AM	54234
Surr: Toluene-d8	97.5	70-130		%Rec	1	8/8/2020 7:22:37 AM	54234

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-3 E. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 9:05:00 AM

Lab ID: 2008246-008

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	150	60		mg/Kg	20	8/11/2020 1:26:22 PM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/8/2020 7:51:13 AM	54234
Surr: BFB	104	70-130		%Rec	1	8/8/2020 7:51:13 AM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/7/2020 6:24:00 PM	54240
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/7/2020 6:24:00 PM	54240
Surr: DNOP	108	30.4-154		%Rec	1	8/7/2020 6:24:00 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/8/2020 7:51:13 AM	54234
Toluene	ND	0.049		mg/Kg	1	8/8/2020 7:51:13 AM	54234
Ethylbenzene	ND	0.049		mg/Kg	1	8/8/2020 7:51:13 AM	54234
Xylenes, Total	ND	0.098		mg/Kg	1	8/8/2020 7:51:13 AM	54234
Surr: 1,2-Dichloroethane-d4	94.1	70-130		%Rec	1	8/8/2020 7:51:13 AM	54234
Surr: 4-Bromofluorobenzene	97.0	70-130		%Rec	1	8/8/2020 7:51:13 AM	54234
Surr: Dibromofluoromethane	110	70-130		%Rec	1	8/8/2020 7:51:13 AM	54234
Surr: Toluene-d8	101	70-130		%Rec	1	8/8/2020 7:51:13 AM	54234

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

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

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**Lab Order **2008246**Date Reported: **8/13/2020****CLIENT:** Mewbourne Oil Company**Client Sample ID:** SP-3 W. Wall**Project:** Red Hills Water Management System**Collection Date:** 8/4/2020 9:10:00 AM**Lab ID:** 2008246-009**Matrix:** SOIL**Received Date:** 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	180	60		mg/Kg	20	8/11/2020 1:38:43 PM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/8/2020 8:19:52 AM	54234
Surr: BFB	102	70-130		%Rec	1	8/8/2020 8:19:52 AM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/7/2020 6:34:04 PM	54240
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/7/2020 6:34:04 PM	54240
Surr: DNOP	79.6	30.4-154		%Rec	1	8/7/2020 6:34:04 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	8/8/2020 8:19:52 AM	54234
Toluene	ND	0.050		mg/Kg	1	8/8/2020 8:19:52 AM	54234
Ethylbenzene	ND	0.050		mg/Kg	1	8/8/2020 8:19:52 AM	54234
Xylenes, Total	ND	0.099		mg/Kg	1	8/8/2020 8:19:52 AM	54234
Surr: 1,2-Dichloroethane-d4	92.7	70-130		%Rec	1	8/8/2020 8:19:52 AM	54234
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	8/8/2020 8:19:52 AM	54234
Surr: Dibromofluoromethane	102	70-130		%Rec	1	8/8/2020 8:19:52 AM	54234
Surr: Toluene-d8	102	70-130		%Rec	1	8/8/2020 8:19:52 AM	54234

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

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

## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-3 Floor

Project: Red Hills Water Management System

Collection Date: 8/4/2020 9:15:00 AM

Lab ID: 2008246-010

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	3600	150		mg/Kg	50	8/12/2020 11:45:12 PM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/8/2020 8:48:23 AM	54234
Surr: BFB	98.8	70-130		%Rec	1	8/8/2020 8:48:23 AM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/7/2020 6:44:14 PM	54240
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/7/2020 6:44:14 PM	54240
Surr: DNOP	114	30.4-154		%Rec	1	8/7/2020 6:44:14 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/8/2020 8:48:23 AM	54234
Toluene	ND	0.048		mg/Kg	1	8/8/2020 8:48:23 AM	54234
Ethylbenzene	ND	0.048		mg/Kg	1	8/8/2020 8:48:23 AM	54234
Xylenes, Total	ND	0.097		mg/Kg	1	8/8/2020 8:48:23 AM	54234
Surr: 1,2-Dichloroethane-d4	93.7	70-130		%Rec	1	8/8/2020 8:48:23 AM	54234
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/8/2020 8:48:23 AM	54234
Surr: Dibromofluoromethane	102	70-130		%Rec	1	8/8/2020 8:48:23 AM	54234
Surr: Toluene-d8	99.0	70-130		%Rec	1	8/8/2020 8:48:23 AM	54234

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-4 E. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 9:25:00 AM

Lab ID: 2008246-011

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	3000	150		mg/Kg	50	8/12/2020 11:57:37 PM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/8/2020 9:16:53 AM	54234
Surr: BFB	102	70-130		%Rec	1	8/8/2020 9:16:53 AM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	23	9.6		mg/Kg	1	8/7/2020 6:54:20 PM	54240
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/7/2020 6:54:20 PM	54240
Surr: DNOP	81.1	30.4-154		%Rec	1	8/7/2020 6:54:20 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	8/8/2020 9:16:53 AM	54234
Toluene	ND	0.050		mg/Kg	1	8/8/2020 9:16:53 AM	54234
Ethylbenzene	ND	0.050		mg/Kg	1	8/8/2020 9:16:53 AM	54234
Xylenes, Total	ND	0.10		mg/Kg	1	8/8/2020 9:16:53 AM	54234
Surr: 1,2-Dichloroethane-d4	99.5	70-130		%Rec	1	8/8/2020 9:16:53 AM	54234
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	8/8/2020 9:16:53 AM	54234
Surr: Dibromofluoromethane	106	70-130		%Rec	1	8/8/2020 9:16:53 AM	54234
Surr: Toluene-d8	103	70-130		%Rec	1	8/8/2020 9:16:53 AM	54234

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-4 W. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 9:20:00 AM

Lab ID: 2008246-012

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	570	60		mg/Kg	20	8/11/2020 2:15:45 PM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/8/2020 1:46:39 PM	54234
Surr: BFB	99.5	70-130		%Rec	1	8/8/2020 1:46:39 PM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/7/2020 7:04:22 PM	54240
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/7/2020 7:04:22 PM	54240
Surr: DNOP	64.6	30.4-154		%Rec	1	8/7/2020 7:04:22 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	8/8/2020 1:46:39 PM	54234
Toluene	ND	0.050		mg/Kg	1	8/8/2020 1:46:39 PM	54234
Ethylbenzene	ND	0.050		mg/Kg	1	8/8/2020 1:46:39 PM	54234
Xylenes, Total	ND	0.10		mg/Kg	1	8/8/2020 1:46:39 PM	54234
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	8/8/2020 1:46:39 PM	54234
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/8/2020 1:46:39 PM	54234
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/8/2020 1:46:39 PM	54234
Surr: Toluene-d8	93.3	70-130		%Rec	1	8/8/2020 1:46:39 PM	54234

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

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

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-4 Floor

Project: Red Hills Water Management System

Collection Date: 8/4/2020 9:30:00 AM

Lab ID: 2008246-013

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	3600	150		mg/Kg	50	8/13/2020 12:10:02 AM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/8/2020 2:15:15 PM	54234
Surr: BFB	101	70-130		%Rec	1	8/8/2020 2:15:15 PM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/7/2020 7:14:26 PM	54240
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/7/2020 7:14:26 PM	54240
Surr: DNOP	87.8	30.4-154		%Rec	1	8/7/2020 7:14:26 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.023		mg/Kg	1	8/8/2020 2:15:15 PM	54234
Toluene	ND	0.046		mg/Kg	1	8/8/2020 2:15:15 PM	54234
Ethylbenzene	ND	0.046		mg/Kg	1	8/8/2020 2:15:15 PM	54234
Xylenes, Total	ND	0.092		mg/Kg	1	8/8/2020 2:15:15 PM	54234
Surr: 1,2-Dichloroethane-d4	95.9	70-130		%Rec	1	8/8/2020 2:15:15 PM	54234
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/8/2020 2:15:15 PM	54234
Surr: Dibromofluoromethane	104	70-130		%Rec	1	8/8/2020 2:15:15 PM	54234
Surr: Toluene-d8	93.6	70-130		%Rec	1	8/8/2020 2:15:15 PM	54234

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**Lab Order **2008246**Date Reported: **8/13/2020****CLIENT:** Mewbourne Oil Company**Client Sample ID:** SP-5 E. Wall**Project:** Red Hills Water Management System**Collection Date:** 8/4/2020 9:40:00 AM**Lab ID:** 2008246-014**Matrix:** SOIL**Received Date:** 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	380	60		mg/Kg	20	8/11/2020 3:05:10 PM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/8/2020 2:43:52 PM	54234
Surr: BFB	101	70-130		%Rec	1	8/8/2020 2:43:52 PM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/7/2020 7:24:26 PM	54240
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/7/2020 7:24:26 PM	54240
Surr: DNOP	61.2	30.4-154		%Rec	1	8/7/2020 7:24:26 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	8/8/2020 2:43:52 PM	54234
Toluene	ND	0.050		mg/Kg	1	8/8/2020 2:43:52 PM	54234
Ethylbenzene	ND	0.050		mg/Kg	1	8/8/2020 2:43:52 PM	54234
Xylenes, Total	ND	0.099		mg/Kg	1	8/8/2020 2:43:52 PM	54234
Surr: 1,2-Dichloroethane-d4	96.0	70-130		%Rec	1	8/8/2020 2:43:52 PM	54234
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	8/8/2020 2:43:52 PM	54234
Surr: Dibromofluoromethane	107	70-130		%Rec	1	8/8/2020 2:43:52 PM	54234
Surr: Toluene-d8	98.6	70-130		%Rec	1	8/8/2020 2:43:52 PM	54234

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-5 W. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 9:35:00 AM

Lab ID: 2008246-015

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	450	60		mg/Kg	20	8/11/2020 3:17:31 PM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/8/2020 3:12:30 PM	54234
Surr: BFB	101	70-130		%Rec	1	8/8/2020 3:12:30 PM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/7/2020 7:34:27 PM	54240
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/7/2020 7:34:27 PM	54240
Surr: DNOP	114	30.4-154		%Rec	1	8/7/2020 7:34:27 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/8/2020 3:12:30 PM	54234
Toluene	ND	0.049		mg/Kg	1	8/8/2020 3:12:30 PM	54234
Ethylbenzene	ND	0.049		mg/Kg	1	8/8/2020 3:12:30 PM	54234
Xylenes, Total	ND	0.098		mg/Kg	1	8/8/2020 3:12:30 PM	54234
Surr: 1,2-Dichloroethane-d4	96.9	70-130		%Rec	1	8/8/2020 3:12:30 PM	54234
Surr: 4-Bromofluorobenzene	99.6	70-130		%Rec	1	8/8/2020 3:12:30 PM	54234
Surr: Dibromofluoromethane	105	70-130		%Rec	1	8/8/2020 3:12:30 PM	54234
Surr: Toluene-d8	94.8	70-130		%Rec	1	8/8/2020 3:12:30 PM	54234

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

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

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-5 Floor

Project: Red Hills Water Management System

Collection Date: 8/4/2020 9:45:00 AM

Lab ID: 2008246-016

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	220	60		mg/Kg	20	8/11/2020 3:29:51 PM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/8/2020 3:41:08 PM	54234
Surr: BFB	103	70-130		%Rec	1	8/8/2020 3:41:08 PM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/7/2020 7:44:25 PM	54240
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/7/2020 7:44:25 PM	54240
Surr: DNOP	75.3	30.4-154		%Rec	1	8/7/2020 7:44:25 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	8/8/2020 3:41:08 PM	54234
Toluene	ND	0.050		mg/Kg	1	8/8/2020 3:41:08 PM	54234
Ethylbenzene	ND	0.050		mg/Kg	1	8/8/2020 3:41:08 PM	54234
Xylenes, Total	ND	0.10		mg/Kg	1	8/8/2020 3:41:08 PM	54234
Surr: 1,2-Dichloroethane-d4	98.2	70-130		%Rec	1	8/8/2020 3:41:08 PM	54234
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	8/8/2020 3:41:08 PM	54234
Surr: Dibromofluoromethane	105	70-130		%Rec	1	8/8/2020 3:41:08 PM	54234
Surr: Toluene-d8	99.7	70-130		%Rec	1	8/8/2020 3:41:08 PM	54234

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

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

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-6 E. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 9:50:00 AM

Lab ID: 2008246-017

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	770	60		mg/Kg	20	8/11/2020 3:42:12 PM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/8/2020 4:09:48 PM	54234
Surr: BFB	105	70-130		%Rec	1	8/8/2020 4:09:48 PM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/7/2020 7:54:23 PM	54240
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/7/2020 7:54:23 PM	54240
Surr: DNOP	107	30.4-154		%Rec	1	8/7/2020 7:54:23 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	8/8/2020 4:09:48 PM	54234
Toluene	ND	0.050		mg/Kg	1	8/8/2020 4:09:48 PM	54234
Ethylbenzene	ND	0.050		mg/Kg	1	8/8/2020 4:09:48 PM	54234
Xylenes, Total	ND	0.10		mg/Kg	1	8/8/2020 4:09:48 PM	54234
Surr: 1,2-Dichloroethane-d4	93.3	70-130		%Rec	1	8/8/2020 4:09:48 PM	54234
Surr: 4-Bromofluorobenzene	96.8	70-130		%Rec	1	8/8/2020 4:09:48 PM	54234
Surr: Dibromofluoromethane	105	70-130		%Rec	1	8/8/2020 4:09:48 PM	54234
Surr: Toluene-d8	99.3	70-130		%Rec	1	8/8/2020 4:09:48 PM	54234

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

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

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-6 W. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 9:55:00 AM

Lab ID: 2008246-018

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	550	59		mg/Kg	20	8/11/2020 3:54:32 PM	54322
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/8/2020 4:38:29 PM	54234
Surr: BFB	100	70-130		%Rec	1	8/8/2020 4:38:29 PM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/7/2020 8:04:24 PM	54240
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/7/2020 8:04:24 PM	54240
Surr: DNOP	92.0	30.4-154		%Rec	1	8/7/2020 8:04:24 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/8/2020 4:38:29 PM	54234
Toluene	ND	0.049		mg/Kg	1	8/8/2020 4:38:29 PM	54234
Ethylbenzene	ND	0.049		mg/Kg	1	8/8/2020 4:38:29 PM	54234
Xylenes, Total	ND	0.098		mg/Kg	1	8/8/2020 4:38:29 PM	54234
Surr: 1,2-Dichloroethane-d4	95.5	70-130		%Rec	1	8/8/2020 4:38:29 PM	54234
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	1	8/8/2020 4:38:29 PM	54234
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/8/2020 4:38:29 PM	54234
Surr: Toluene-d8	101	70-130		%Rec	1	8/8/2020 4:38:29 PM	54234

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-6 Floor

Project: Red Hills Water Management System

Collection Date: 8/4/2020 10:00:00 AM

Lab ID: 2008246-019

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	410	60		mg/Kg	20	8/11/2020 4:31:34 PM	54328
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/8/2020 5:07:16 PM	54234
Surr: BFB	100	70-130		%Rec	1	8/8/2020 5:07:16 PM	54234
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/7/2020 8:14:23 PM	54240
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/7/2020 8:14:23 PM	54240
Surr: DNOP	86.3	30.4-154		%Rec	1	8/7/2020 8:14:23 PM	54240
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/8/2020 5:07:16 PM	54234
Toluene	ND	0.049		mg/Kg	1	8/8/2020 5:07:16 PM	54234
Ethylbenzene	ND	0.049		mg/Kg	1	8/8/2020 5:07:16 PM	54234
Xylenes, Total	ND	0.097		mg/Kg	1	8/8/2020 5:07:16 PM	54234
Surr: 1,2-Dichloroethane-d4	92.3	70-130		%Rec	1	8/8/2020 5:07:16 PM	54234
Surr: 4-Bromofluorobenzene	99.6	70-130		%Rec	1	8/8/2020 5:07:16 PM	54234
Surr: Dibromofluoromethane	103	70-130		%Rec	1	8/8/2020 5:07:16 PM	54234
Surr: Toluene-d8	97.3	70-130		%Rec	1	8/8/2020 5:07:16 PM	54234

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

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

## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-7 E. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 10:15:00 AM

Lab ID: 2008246-020

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	570	60		mg/Kg	20	8/11/2020 5:33:17 PM	54328
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/8/2020 5:35:58 PM	54239
Surr: BFB	106	70-130		%Rec	1	8/8/2020 5:35:58 PM	54239
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/7/2020 9:14:01 PM	54245
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/7/2020 9:14:01 PM	54245
Surr: DNOP	89.6	30.4-154		%Rec	1	8/7/2020 9:14:01 PM	54245
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/8/2020 5:35:58 PM	54239
Toluene	ND	0.047		mg/Kg	1	8/8/2020 5:35:58 PM	54239
Ethylbenzene	ND	0.047		mg/Kg	1	8/8/2020 5:35:58 PM	54239
Xylenes, Total	ND	0.095		mg/Kg	1	8/8/2020 5:35:58 PM	54239
Surr: 1,2-Dichloroethane-d4	97.0	70-130		%Rec	1	8/8/2020 5:35:58 PM	54239
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/8/2020 5:35:58 PM	54239
Surr: Dibromofluoromethane	105	70-130		%Rec	1	8/8/2020 5:35:58 PM	54239
Surr: Toluene-d8	100	70-130		%Rec	1	8/8/2020 5:35:58 PM	54239

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

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

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-7 W. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 10:10:00 AM

Lab ID: 2008246-021

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	460	60		mg/Kg	20	8/11/2020 5:45:38 PM	54328
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/8/2020 7:02:06 PM	54239
Surr: BFB	97.2	70-130		%Rec	1	8/8/2020 7:02:06 PM	54239
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/7/2020 9:43:46 PM	54245
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/7/2020 9:43:46 PM	54245
Surr: DNOP	66.8	30.4-154		%Rec	1	8/7/2020 9:43:46 PM	54245
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/8/2020 7:02:06 PM	54239
Toluene	ND	0.048		mg/Kg	1	8/8/2020 7:02:06 PM	54239
Ethylbenzene	ND	0.048		mg/Kg	1	8/8/2020 7:02:06 PM	54239
Xylenes, Total	ND	0.096		mg/Kg	1	8/8/2020 7:02:06 PM	54239
Surr: 1,2-Dichloroethane-d4	98.0	70-130		%Rec	1	8/8/2020 7:02:06 PM	54239
Surr: 4-Bromofluorobenzene	95.3	70-130		%Rec	1	8/8/2020 7:02:06 PM	54239
Surr: Dibromofluoromethane	103	70-130		%Rec	1	8/8/2020 7:02:06 PM	54239
Surr: Toluene-d8	99.8	70-130		%Rec	1	8/8/2020 7:02:06 PM	54239

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

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

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-7 Floor

Project: Red Hills Water Management System

Collection Date: 8/4/2020 10:05:00 AM

Lab ID: 2008246-022

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	3800	150		mg/Kg	50	8/13/2020 12:22:26 AM	54328
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/8/2020 8:28:06 PM	54239
Surr: BFB	102	70-130		%Rec	1	8/8/2020 8:28:06 PM	54239
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/7/2020 9:53:42 PM	54245
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/7/2020 9:53:42 PM	54245
Surr: DNOP	65.5	30.4-154		%Rec	1	8/7/2020 9:53:42 PM	54245
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/8/2020 8:28:06 PM	54239
Toluene	ND	0.048		mg/Kg	1	8/8/2020 8:28:06 PM	54239
Ethylbenzene	ND	0.048		mg/Kg	1	8/8/2020 8:28:06 PM	54239
Xylenes, Total	ND	0.096		mg/Kg	1	8/8/2020 8:28:06 PM	54239
Surr: 1,2-Dichloroethane-d4	98.9	70-130		%Rec	1	8/8/2020 8:28:06 PM	54239
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	8/8/2020 8:28:06 PM	54239
Surr: Dibromofluoromethane	109	70-130		%Rec	1	8/8/2020 8:28:06 PM	54239
Surr: Toluene-d8	98.7	70-130		%Rec	1	8/8/2020 8:28:06 PM	54239

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

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

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**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**Lab Order **2008246**Date Reported: **8/13/2020****CLIENT:** Mewbourne Oil Company**Client Sample ID:** SP-8 S. Wall**Project:** Red Hills Water Management System**Collection Date:** 8/4/2020 10:20:00 AM**Lab ID:** 2008246-023**Matrix:** SOIL**Received Date:** 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	1200	59		mg/Kg	20	8/11/2020 6:10:19 PM	54328
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/8/2020 8:56:39 PM	54239
Surr: BFB	97.8	70-130		%Rec	1	8/8/2020 8:56:39 PM	54239
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/7/2020 10:03:41 PM	54245
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/7/2020 10:03:41 PM	54245
Surr: DNOP	98.9	30.4-154		%Rec	1	8/7/2020 10:03:41 PM	54245
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/8/2020 8:56:39 PM	54239
Toluene	ND	0.047		mg/Kg	1	8/8/2020 8:56:39 PM	54239
Ethylbenzene	ND	0.047		mg/Kg	1	8/8/2020 8:56:39 PM	54239
Xylenes, Total	ND	0.095		mg/Kg	1	8/8/2020 8:56:39 PM	54239
Surr: 1,2-Dichloroethane-d4	93.9	70-130		%Rec	1	8/8/2020 8:56:39 PM	54239
Surr: 4-Bromofluorobenzene	98.7	70-130		%Rec	1	8/8/2020 8:56:39 PM	54239
Surr: Dibromofluoromethane	102	70-130		%Rec	1	8/8/2020 8:56:39 PM	54239
Surr: Toluene-d8	94.3	70-130		%Rec	1	8/8/2020 8:56:39 PM	54239

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

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-8 E. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 10:25:00 AM

Lab ID: 2008246-024

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	410	60		mg/Kg	20	8/11/2020 6:22:40 PM	54328
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/8/2020 9:25:15 PM	54239
Surr: BFB	100	70-130		%Rec	1	8/8/2020 9:25:15 PM	54239
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/7/2020 10:13:44 PM	54245
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/7/2020 10:13:44 PM	54245
Surr: DNOP	126	30.4-154		%Rec	1	8/7/2020 10:13:44 PM	54245
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	8/8/2020 9:25:15 PM	54239
Toluene	ND	0.050		mg/Kg	1	8/8/2020 9:25:15 PM	54239
Ethylbenzene	ND	0.050		mg/Kg	1	8/8/2020 9:25:15 PM	54239
Xylenes, Total	ND	0.10		mg/Kg	1	8/8/2020 9:25:15 PM	54239
Surr: 1,2-Dichloroethane-d4	96.0	70-130		%Rec	1	8/8/2020 9:25:15 PM	54239
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	8/8/2020 9:25:15 PM	54239
Surr: Dibromofluoromethane	102	70-130		%Rec	1	8/8/2020 9:25:15 PM	54239
Surr: Toluene-d8	96.5	70-130		%Rec	1	8/8/2020 9:25:15 PM	54239

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

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

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-8 W. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 10:30:00 AM

Lab ID: 2008246-025

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	570	60		mg/Kg	20	8/11/2020 6:35:02 PM	54328
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/8/2020 9:53:46 PM	54239
Surr: BFB	100	70-130		%Rec	1	8/8/2020 9:53:46 PM	54239
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/7/2020 10:23:42 PM	54245
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/7/2020 10:23:42 PM	54245
Surr: DNOP	69.2	30.4-154		%Rec	1	8/7/2020 10:23:42 PM	54245
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/8/2020 9:53:46 PM	54239
Toluene	ND	0.048		mg/Kg	1	8/8/2020 9:53:46 PM	54239
Ethylbenzene	ND	0.048		mg/Kg	1	8/8/2020 9:53:46 PM	54239
Xylenes, Total	ND	0.095		mg/Kg	1	8/8/2020 9:53:46 PM	54239
Surr: 1,2-Dichloroethane-d4	96.2	70-130		%Rec	1	8/8/2020 9:53:46 PM	54239
Surr: 4-Bromofluorobenzene	99.2	70-130		%Rec	1	8/8/2020 9:53:46 PM	54239
Surr: Dibromofluoromethane	107	70-130		%Rec	1	8/8/2020 9:53:46 PM	54239
Surr: Toluene-d8	90.6	70-130		%Rec	1	8/8/2020 9:53:46 PM	54239

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**Lab Order **2008246**Date Reported: **8/13/2020****CLIENT:** Mewbourne Oil Company**Client Sample ID:** SP-8 Floor**Project:** Red Hills Water Management System**Collection Date:** 8/4/2020 10:35:00 AM**Lab ID:** 2008246-026**Matrix:** SOIL**Received Date:** 8/6/2020 8:00:00 AM

<b>Analyses</b>	<b>Result</b>	<b>RL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>	<b>Batch</b>
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	550	60		mg/Kg	20	8/11/2020 6:47:22 PM	54328
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/8/2020 10:22:17 PM	54239
Surr: BFB	97.8	70-130		%Rec	1	8/8/2020 10:22:17 PM	54239
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/7/2020 10:33:44 PM	54245
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/7/2020 10:33:44 PM	54245
Surr: DNOP	97.6	30.4-154		%Rec	1	8/7/2020 10:33:44 PM	54245
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/8/2020 10:22:17 PM	54239
Toluene	ND	0.047		mg/Kg	1	8/8/2020 10:22:17 PM	54239
Ethylbenzene	ND	0.047		mg/Kg	1	8/8/2020 10:22:17 PM	54239
Xylenes, Total	ND	0.094		mg/Kg	1	8/8/2020 10:22:17 PM	54239
Surr: 1,2-Dichloroethane-d4	95.2	70-130		%Rec	1	8/8/2020 10:22:17 PM	54239
Surr: 4-Bromofluorobenzene	97.3	70-130		%Rec	1	8/8/2020 10:22:17 PM	54239
Surr: Dibromofluoromethane	106	70-130		%Rec	1	8/8/2020 10:22:17 PM	54239
Surr: Toluene-d8	96.1	70-130		%Rec	1	8/8/2020 10:22:17 PM	54239

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-9 N. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 11:10:00 AM

Lab ID: 2008246-027

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	140	60		mg/Kg	20	8/11/2020 6:59:44 PM	54328
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/8/2020 10:50:45 PM	54239
Surr: BFB	102	70-130		%Rec	1	8/8/2020 10:50:45 PM	54239
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	8/7/2020 10:43:48 PM	54245
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/7/2020 10:43:48 PM	54245
Surr: DNOP	140	30.4-154		%Rec	1	8/7/2020 10:43:48 PM	54245
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/8/2020 10:50:45 PM	54239
Toluene	ND	0.048		mg/Kg	1	8/8/2020 10:50:45 PM	54239
Ethylbenzene	ND	0.048		mg/Kg	1	8/8/2020 10:50:45 PM	54239
Xylenes, Total	ND	0.096		mg/Kg	1	8/8/2020 10:50:45 PM	54239
Surr: 1,2-Dichloroethane-d4	99.1	70-130		%Rec	1	8/8/2020 10:50:45 PM	54239
Surr: 4-Bromofluorobenzene	99.0	70-130		%Rec	1	8/8/2020 10:50:45 PM	54239
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/8/2020 10:50:45 PM	54239
Surr: Toluene-d8	97.1	70-130		%Rec	1	8/8/2020 10:50:45 PM	54239

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

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

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**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**Lab Order **2008246**Date Reported: **8/13/2020****CLIENT:** Mewbourne Oil Company**Client Sample ID:** SP-9 S. Wall**Project:** Red Hills Water Management System**Collection Date:** 8/4/2020 11:05:00 AM**Lab ID:** 2008246-028**Matrix:** SOIL**Received Date:** 8/6/2020 8:00:00 AM

<b>Analyses</b>	<b>Result</b>	<b>RL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>	<b>Batch</b>
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	150	60		mg/Kg	20	8/11/2020 7:36:46 PM	54328
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/9/2020 2:10:18 AM	54239
Surr: BFB	98.7	70-130		%Rec	1	8/9/2020 2:10:18 AM	54239
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/7/2020 10:53:55 PM	54245
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/7/2020 10:53:55 PM	54245
Surr: DNOP	107	30.4-154		%Rec	1	8/7/2020 10:53:55 PM	54245
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/9/2020 2:10:18 AM	54239
Toluene	ND	0.047		mg/Kg	1	8/9/2020 2:10:18 AM	54239
Ethylbenzene	ND	0.047		mg/Kg	1	8/9/2020 2:10:18 AM	54239
Xylenes, Total	ND	0.094		mg/Kg	1	8/9/2020 2:10:18 AM	54239
Surr: 1,2-Dichloroethane-d4	98.4	70-130		%Rec	1	8/9/2020 2:10:18 AM	54239
Surr: 4-Bromofluorobenzene	95.7	70-130		%Rec	1	8/9/2020 2:10:18 AM	54239
Surr: Dibromofluoromethane	106	70-130		%Rec	1	8/9/2020 2:10:18 AM	54239
Surr: Toluene-d8	96.0	70-130		%Rec	1	8/9/2020 2:10:18 AM	54239

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-9 Floor

Project: Red Hills Water Management System

Collection Date: 8/4/2020 11:00:00 AM

Lab ID: 2008246-029

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	440	60		mg/Kg	20	8/11/2020 7:49:07 PM	54328
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/9/2020 2:38:47 AM	54239
Surr: BFB	102	70-130		%Rec	1	8/9/2020 2:38:47 AM	54239
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/7/2020 11:04:00 PM	54245
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/7/2020 11:04:00 PM	54245
Surr: DNOP	131	30.4-154		%Rec	1	8/7/2020 11:04:00 PM	54245
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	8/9/2020 2:38:47 AM	54239
Toluene	ND	0.049		mg/Kg	1	8/9/2020 2:38:47 AM	54239
Ethylbenzene	ND	0.049		mg/Kg	1	8/9/2020 2:38:47 AM	54239
Xylenes, Total	ND	0.098		mg/Kg	1	8/9/2020 2:38:47 AM	54239
Surr: 1,2-Dichloroethane-d4	96.4	70-130		%Rec	1	8/9/2020 2:38:47 AM	54239
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/9/2020 2:38:47 AM	54239
Surr: Dibromofluoromethane	103	70-130		%Rec	1	8/9/2020 2:38:47 AM	54239
Surr: Toluene-d8	94.3	70-130		%Rec	1	8/9/2020 2:38:47 AM	54239

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

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

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**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**Lab Order **2008246**Date Reported: **8/13/2020****CLIENT:** Mewbourne Oil Company**Client Sample ID:** SP-16 N. Wall**Project:** Red Hills Water Management System**Collection Date:** 8/4/2020 11:20:00 AM**Lab ID:** 2008246-030**Matrix:** SOIL**Received Date:** 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	150	61		mg/Kg	20	8/11/2020 8:01:28 PM	54328
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/9/2020 3:07:15 AM	54239
Surr: BFB	104	70-130		%Rec	1	8/9/2020 3:07:15 AM	54239
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/7/2020 11:14:05 PM	54245
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/7/2020 11:14:05 PM	54245
Surr: DNOP	96.2	30.4-154		%Rec	1	8/7/2020 11:14:05 PM	54245
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.023		mg/Kg	1	8/9/2020 3:07:15 AM	54239
Toluene	ND	0.047		mg/Kg	1	8/9/2020 3:07:15 AM	54239
Ethylbenzene	ND	0.047		mg/Kg	1	8/9/2020 3:07:15 AM	54239
Xylenes, Total	ND	0.094		mg/Kg	1	8/9/2020 3:07:15 AM	54239
Surr: 1,2-Dichloroethane-d4	92.5	70-130		%Rec	1	8/9/2020 3:07:15 AM	54239
Surr: 4-Bromofluorobenzene	99.6	70-130		%Rec	1	8/9/2020 3:07:15 AM	54239
Surr: Dibromofluoromethane	104	70-130		%Rec	1	8/9/2020 3:07:15 AM	54239
Surr: Toluene-d8	99.6	70-130		%Rec	1	8/9/2020 3:07:15 AM	54239

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

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

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-16 S. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 11:15:00 AM

Lab ID: 2008246-031

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	150	60		mg/Kg	20	8/11/2020 8:13:49 PM	54328
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/9/2020 3:35:41 AM	54239
Surr: BFB	98.5	70-130		%Rec	1	8/9/2020 3:35:41 AM	54239
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/7/2020 11:24:27 PM	54245
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/7/2020 11:24:27 PM	54245
Surr: DNOP	115	30.4-154		%Rec	1	8/7/2020 11:24:27 PM	54245
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/9/2020 3:35:41 AM	54239
Toluene	ND	0.048		mg/Kg	1	8/9/2020 3:35:41 AM	54239
Ethylbenzene	ND	0.048		mg/Kg	1	8/9/2020 3:35:41 AM	54239
Xylenes, Total	ND	0.097		mg/Kg	1	8/9/2020 3:35:41 AM	54239
Surr: 1,2-Dichloroethane-d4	99.3	70-130		%Rec	1	8/9/2020 3:35:41 AM	54239
Surr: 4-Bromofluorobenzene	94.7	70-130		%Rec	1	8/9/2020 3:35:41 AM	54239
Surr: Dibromofluoromethane	109	70-130		%Rec	1	8/9/2020 3:35:41 AM	54239
Surr: Toluene-d8	96.6	70-130		%Rec	1	8/9/2020 3:35:41 AM	54239

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

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

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**Lab Order **2008246**Date Reported: **8/13/2020****CLIENT:** Mewbourne Oil Company**Client Sample ID:** SP-16 W. Wall**Project:** Red Hills Water Management System**Collection Date:** 8/4/2020 11:25:00 AM**Lab ID:** 2008246-032**Matrix:** SOIL**Received Date:** 8/6/2020 8:00:00 AM

<b>Analyses</b>	<b>Result</b>	<b>RL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>	<b>Batch</b>
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	280	60		mg/Kg	20	8/11/2020 8:26:09 PM	54328
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/9/2020 4:04:11 AM	54239
Surr: BFB	101	70-130		%Rec	1	8/9/2020 4:04:11 AM	54239
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/7/2020 11:34:40 PM	54245
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/7/2020 11:34:40 PM	54245
Surr: DNOP	107	30.4-154		%Rec	1	8/7/2020 11:34:40 PM	54245
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.024		mg/Kg	1	8/9/2020 4:04:11 AM	54239
Toluene	ND	0.048		mg/Kg	1	8/9/2020 4:04:11 AM	54239
Ethylbenzene	ND	0.048		mg/Kg	1	8/9/2020 4:04:11 AM	54239
Xylenes, Total	ND	0.095		mg/Kg	1	8/9/2020 4:04:11 AM	54239
Surr: 1,2-Dichloroethane-d4	95.4	70-130		%Rec	1	8/9/2020 4:04:11 AM	54239
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	8/9/2020 4:04:11 AM	54239
Surr: Dibromofluoromethane	104	70-130		%Rec	1	8/9/2020 4:04:11 AM	54239
Surr: Toluene-d8	94.4	70-130		%Rec	1	8/9/2020 4:04:11 AM	54239

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

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-16 Floor

Project: Red Hills Water Management System

Collection Date: 8/4/2020 12:25:00 PM

Lab ID: 2008246-033

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	100	60		mg/Kg	20	8/11/2020 8:38:31 PM	54328
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/9/2020 4:32:47 AM	54239
Surr: BFB	105	70-130		%Rec	1	8/9/2020 4:32:47 AM	54239
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	13	9.0		mg/Kg	1	8/10/2020 2:27:43 PM	54245
Motor Oil Range Organics (MRO)	91	45		mg/Kg	1	8/10/2020 2:27:43 PM	54245
Surr: DNOP	102	30.4-154		%Rec	1	8/10/2020 2:27:43 PM	54245
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.023		mg/Kg	1	8/9/2020 4:32:47 AM	54239
Toluene	ND	0.047		mg/Kg	1	8/9/2020 4:32:47 AM	54239
Ethylbenzene	ND	0.047		mg/Kg	1	8/9/2020 4:32:47 AM	54239
Xylenes, Total	ND	0.093		mg/Kg	1	8/9/2020 4:32:47 AM	54239
Surr: 1,2-Dichloroethane-d4	98.5	70-130		%Rec	1	8/9/2020 4:32:47 AM	54239
Surr: 4-Bromofluorobenzene	99.6	70-130		%Rec	1	8/9/2020 4:32:47 AM	54239
Surr: Dibromofluoromethane	107	70-130		%Rec	1	8/9/2020 4:32:47 AM	54239
Surr: Toluene-d8	98.4	70-130		%Rec	1	8/9/2020 4:32:47 AM	54239

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

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

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## Analytical Report

Lab Order 2008246

Date Reported: 8/13/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-17 E. Wall

Project: Red Hills Water Management System

Collection Date: 8/4/2020 12:20:00 PM

Lab ID: 2008246-034

Matrix: SOIL

Received Date: 8/6/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	250	60		mg/Kg	20	8/11/2020 8:50:52 PM	54328
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/9/2020 5:01:18 AM	54239
Surr: BFB	99.3	70-130		%Rec	1	8/9/2020 5:01:18 AM	54239
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/7/2020 11:55:05 PM	54245
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/7/2020 11:55:05 PM	54245
Surr: DNOP	112	30.4-154		%Rec	1	8/7/2020 11:55:05 PM	54245
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.025		mg/Kg	1	8/9/2020 5:01:18 AM	54239
Toluene	ND	0.050		mg/Kg	1	8/9/2020 5:01:18 AM	54239
Ethylbenzene	ND	0.050		mg/Kg	1	8/9/2020 5:01:18 AM	54239
Xylenes, Total	ND	0.099		mg/Kg	1	8/9/2020 5:01:18 AM	54239
Surr: 1,2-Dichloroethane-d4	99.2	70-130		%Rec	1	8/9/2020 5:01:18 AM	54239
Surr: 4-Bromofluorobenzene	96.9	70-130		%Rec	1	8/9/2020 5:01:18 AM	54239
Surr: Dibromofluoromethane	106	70-130		%Rec	1	8/9/2020 5:01:18 AM	54239
Surr: Toluene-d8	95.0	70-130		%Rec	1	8/9/2020 5:01:18 AM	54239

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

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

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008246

13-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>MB-54322</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>54322</b>		RunNo: <b>71001</b>							
Prep Date: <b>8/11/2020</b>	Analysis Date: <b>8/11/2020</b>		SeqNo: <b>2473784</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-54322</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>54322</b>		RunNo: <b>71001</b>							
Prep Date: <b>8/11/2020</b>	Analysis Date: <b>8/11/2020</b>		SeqNo: <b>2473785</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.8	90	110			

Sample ID: <b>MB-54328</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>54328</b>		RunNo: <b>71001</b>							
Prep Date: <b>8/11/2020</b>	Analysis Date: <b>8/11/2020</b>		SeqNo: <b>2473814</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-54328</b>	SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>54328</b>		RunNo: <b>71001</b>							
Prep Date: <b>8/11/2020</b>	Analysis Date: <b>8/11/2020</b>		SeqNo: <b>2473815</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.8	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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008246

13-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>2008246-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>SP-1 N. Wall</b>	Batch ID: <b>54240</b>	RunNo: <b>70967</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2472615</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.6	48.22	0	95.5	47.4	136			
Surr: DNOP	5.0		4.822		104	30.4	154			

Sample ID: <b>2008246-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>SP-1 N. Wall</b>	Batch ID: <b>54240</b>	RunNo: <b>70967</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2472616</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	9.9	49.36	0	104	47.4	136	10.6	43.4	
Surr: DNOP	5.1		4.936		104	30.4	154	0	0	

Sample ID: <b>2008246-020AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>SP-7 E. Wall</b>	Batch ID: <b>54245</b>	RunNo: <b>70967</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2472636</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	28	9.5	47.30	0	60.2	47.4	136			
Surr: DNOP	1.8		4.730		39.0	30.4	154			

Sample ID: <b>2008246-020AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>SP-7 E. Wall</b>	Batch ID: <b>54245</b>	RunNo: <b>70967</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2472637</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.5	47.39	0	95.5	47.4	136	45.5	43.4	R
Surr: DNOP	4.4		4.739		93.1	30.4	154	0	0	

Sample ID: <b>LCS-54240</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54240</b>	RunNo: <b>70967</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2472658</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	62	10	50.00	0	125	70	130			
Surr: DNOP	6.1		5.000		121	30.4	154			

Sample ID: <b>LCS-54245</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54245</b>	RunNo: <b>70967</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2472659</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008246

13-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>LCS-54245</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>54245</b>			RunNo: <b>70967</b>						
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>			SeqNo: <b>2472659</b>	Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	58	10	50.00	0	117	70	130			
Surr: DNOP	5.2		5.000		104	30.4	154			

Sample ID: <b>MB-54240</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>54240</b>			RunNo: <b>70967</b>						
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>			SeqNo: <b>2472661</b>	Units: <b>mg/Kg</b>					
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	13		10.00		130	30.4	154			

Sample ID: <b>MB-54245</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>54245</b>			RunNo: <b>70967</b>						
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>			SeqNo: <b>2472662</b>	Units: <b>mg/Kg</b>					
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	12		10.00		120	30.4	154			

Sample ID: <b>LCS-54255</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>54255</b>			RunNo: <b>70976</b>						
Prep Date: <b>8/7/2020</b>	Analysis Date: <b>8/10/2020</b>			SeqNo: <b>2472908</b>	Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		100	30.4	154			

Sample ID: <b>MB-54255</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>54255</b>			RunNo: <b>70976</b>						
Prep Date: <b>8/7/2020</b>	Analysis Date: <b>8/11/2020</b>			SeqNo: <b>2472909</b>	Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.7		10.00		56.6	30.4	154			

Sample ID: <b>MB-54340</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>54340</b>			RunNo: <b>71011</b>						
Prep Date: <b>8/11/2020</b>	Analysis Date: <b>8/12/2020</b>			SeqNo: <b>2474101</b>	Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008246

13-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>MB-54340</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>54340</b>			RunNo: <b>71011</b>						
Prep Date: <b>8/11/2020</b>	Analysis Date: <b>8/12/2020</b>			SeqNo: <b>2474101</b>	Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		123	30.4	154			

Sample ID: <b>LCS-54340</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>54340</b>			RunNo: <b>71011</b>						
Prep Date: <b>8/11/2020</b>	Analysis Date: <b>8/12/2020</b>			SeqNo: <b>2474102</b>	Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.9		5.000		119	30.4	154			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008246

13-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>mb-54234</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54234</b>	RunNo: <b>70922</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2470077</b>	Units: <b>mg/Kg</b>							
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: 1,2-Dichloroethane-d4	0.46		0.5000		92.5	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.9	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.50		0.5000		99.1	70	130			

Sample ID: <b>lcs-54234</b>	SampType: <b>LCS4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>BatchQC</b>	Batch ID: <b>54234</b>	RunNo: <b>70922</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>	SeqNo: <b>2470078</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	96.4	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	103	80	120			
Xylenes, Total	3.1	0.10	3.000	0	105	80	120			
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		97.7	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.5	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		107	70	130			
Surr: Toluene-d8	0.49		0.5000		98.5	70	130			

Sample ID: <b>2008246-001ams</b>	SampType: <b>MS4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>SP-1 N. Wall</b>	Batch ID: <b>54234</b>	RunNo: <b>70922</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/8/2020</b>	SeqNo: <b>2470080</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9950	0	107	71.1	115			
Toluene	1.1	0.050	0.9950	0	107	79.6	132			
Ethylbenzene	1.1	0.050	0.9950	0	107	83.8	134			
Xylenes, Total	3.5	0.10	2.985	0	116	82.4	132			
Surr: 1,2-Dichloroethane-d4	0.51		0.4975		103	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.4975		101	70	130			
Surr: Dibromofluoromethane	0.54		0.4975		108	70	130			
Surr: Toluene-d8	0.48		0.4975		96.8	70	130			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

Page 39 of 43

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008246

13-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>2008246-001amsd</b>	SampType: <b>MSD4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>SP-1 N. Wall</b>	Batch ID: <b>54234</b>	RunNo: <b>70922</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/8/2020</b>	SeqNo: <b>2470081</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	0.9901	0	100	71.1	115	6.92	20	
Toluene	1.1	0.050	0.9901	0	112	79.6	132	4.23	20	
Ethylbenzene	1.1	0.050	0.9901	0	107	83.8	134	0.355	20	
Xylenes, Total	3.4	0.099	2.970	0	115	82.4	132	1.48	20	
Surr: 1,2-Dichloroethane-d4	0.47		0.4950		95.6	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.53		0.4950		106	70	130	0	0	
Surr: Dibromofluoromethane	0.51		0.4950		104	70	130	0	0	
Surr: Toluene-d8	0.51		0.4950		102	70	130	0	0	

Sample ID: <b>mb-54239</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54239</b>	RunNo: <b>70930</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/8/2020</b>	SeqNo: <b>2470354</b> Units: <b>mg/Kg</b>								
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: 1,2-Dichloroethane-d4	0.50		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		101	70	130			
Surr: Dibromofluoromethane	0.56		0.5000		112	70	130			
Surr: Toluene-d8	0.49		0.5000		97.4	70	130			

Sample ID: <b>lcs-54239</b>	SampType: <b>LCS4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>BatchQC</b>	Batch ID: <b>54239</b>	RunNo: <b>70930</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/8/2020</b>	SeqNo: <b>2470355</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	1.000	0	99.2	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.3	0.10	3.000	0	111	80	120			
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		91.9	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		105	70	130			
Surr: Toluene-d8	0.49		0.5000		98.0	70	130			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008246

13-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>2008246-021ams</b>	SampType: <b>MS4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>SP-7 W. Wall</b>	Batch ID: <b>54239</b>	RunNo: <b>70930</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/8/2020</b>	SeqNo: <b>2470358</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.023	0.9183	0	92.2	71.1	115			
Toluene	0.92	0.046	0.9183	0.005837	99.8	79.6	132			
Ethylbenzene	0.95	0.046	0.9183	0	103	83.8	134			
Xylenes, Total	2.9	0.092	2.755	0	106	82.4	132			
Surr: 1,2-Dichloroethane-d4	0.44		0.4591		96.1	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.4591		102	70	130			
Surr: Dibromofluoromethane	0.50		0.4591		108	70	130			
Surr: Toluene-d8	0.44		0.4591		95.9	70	130			

Sample ID: <b>2008246-021amsd</b>	SampType: <b>MSD4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>SP-7 W. Wall</b>	Batch ID: <b>54239</b>	RunNo: <b>70930</b>								
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/8/2020</b>	SeqNo: <b>2470359</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	0.9872	0	95.2	71.1	115	10.5	20	
Toluene	1.1	0.049	0.9872	0.005837	108	79.6	132	14.8	20	
Ethylbenzene	1.1	0.049	0.9872	0	106	83.8	134	10.2	20	
Xylenes, Total	3.4	0.099	2.962	0	116	82.4	132	16.2	20	
Surr: 1,2-Dichloroethane-d4	0.47		0.4936		95.0	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.49		0.4936		98.4	70	130	0	0	
Surr: Dibromofluoromethane	0.53		0.4936		107	70	130	0	0	
Surr: Toluene-d8	0.50		0.4936		102	70	130	0	0	

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008246

13-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>mb-54234</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>54234</b>		RunNo: <b>70922</b>							
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>		SeqNo: <b>2470105</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	500		500.0		101	70	130			

Sample ID: <b>lcs-54234</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>54234</b>		RunNo: <b>70922</b>							
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/7/2020</b>		SeqNo: <b>2470106</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.0	70	130			
Surr: BFB	480		500.0		96.4	70	130			

Sample ID: <b>2008246-002ams</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>							
Client ID: <b>SP-1 E. Wall</b>	Batch ID: <b>54234</b>		RunNo: <b>70922</b>							
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/8/2020</b>		SeqNo: <b>2470109</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	24.78	0	96.8	49.2	122			
Surr: BFB	510		495.5		104	70	130			

Sample ID: <b>2008246-002amsd</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>							
Client ID: <b>SP-1 E. Wall</b>	Batch ID: <b>54234</b>		RunNo: <b>70922</b>							
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/8/2020</b>		SeqNo: <b>2470110</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.9	24.58	0	91.3	49.2	122	6.66	20	
Surr: BFB	480		491.6		97.2	70	130	0	0	

Sample ID: <b>mb-54239</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>54239</b>		RunNo: <b>70930</b>							
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/8/2020</b>		SeqNo: <b>2470388</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	500		500.0		99.7	70	130			

Sample ID: <b>lcs-54239</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>54239</b>		RunNo: <b>70930</b>							
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/8/2020</b>		SeqNo: <b>2470389</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008246

13-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>Ics-54239</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>54239</b>		RunNo: <b>70930</b>							
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/8/2020</b>		SeqNo: <b>2470389</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.4	70	130			
Surr: BFB	530		500.0		106	70	130			

Sample ID: <b>2008246-020ams</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>							
Client ID: <b>SP-7 E. Wall</b>	Batch ID: <b>54239</b>		RunNo: <b>70930</b>							
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/8/2020</b>		SeqNo: <b>2470391</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	23.99	0	95.5	49.2	122			
Surr: BFB	490		479.8		101	70	130			

Sample ID: <b>2008246-020amsd</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>							
Client ID: <b>SP-7 E. Wall</b>	Batch ID: <b>54239</b>		RunNo: <b>70930</b>							
Prep Date: <b>8/6/2020</b>	Analysis Date: <b>8/8/2020</b>		SeqNo: <b>2470392</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	24.75	0	95.9	49.2	122	3.54	20	
Surr: BFB	510		495.0		104	70	130	0	0	

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit



*Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)*

## Sample Log-In Check List

Client Name: Mewbourne Oil Company

Work Order Number: 2008246

RcptNo: 1

Received By: **Juan Rojas**

8/6/2020 8:00:00 AM

Granting

Completed By: **Juan Rojas**

8/6/2020 8:57:45 AM

Granting

Reviewed By:

8/6/20

### **Chain of Custody**

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

**Log In**

- |  |   |  |  |
|--|---|--|--|
| 3. Was an attempt made to cool the samples?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | NA <input type="checkbox"/>            |
| 4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to $6.0^{\circ}\text{C}$ | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | NA <input type="checkbox"/>            |
| 5. Sample(s) in proper container(s)?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| 6. Sufficient sample volume for indicated test(s)?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| 7. Are samples (except VOA and ONG) properly preserved?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| 8. Was preservative added to bottles?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | NA <input type="checkbox"/>            |
| 9. Received at least 1 vial with headspace $<1/4"$ for AQ VOA?                                 | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | NA <input checked="" type="checkbox"/> |
| 10. Were any sample containers received broken?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |  |
| 11. Does paperwork match bottle labels?<br>(Note discrepancies on chain of custody)            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| 12. Are matrices correctly identified on Chain of Custody?                                     | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| 13. Is it clear what analyses were requested?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| 14. Were all holding times able to be met?<br>(If no, notify customer for authorization.)      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
- # of preserved bottles checked for pH: <2

Adjusted? ☐

Checked by: \_\_\_\_\_

# of preserved bottles checked for pH:

( $\leq 2$  or  $\geq 12$  unless noted)

Adjusted?

Checked by:

**Special Handling (if applicable)**

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

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

16. Additional remarks:

## 17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.3	Good				
2	2.1	Good				
3	-0.4	Good				



8/5/20 1900 *[Signature]* *[Signature]* owner 8/6/20 8:00





Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

August 17, 2020

Robbie Runnels  
Mewbourne Oil Company  
PO Box 5270  
Hobbs, NM 88241  
TEL: (575) 393-5905  
FAX:

RE: Red Hills Water Management System

OrderNo.: 2008370

Dear Robbie Runnels:

Hall Environmental Analysis Laboratory received 19 sample(s) on 8/7/2020 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](http://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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-10 N. Wall

Project: Red Hills Water Management System

Collection Date: 8/5/2020 10:20:00 AM

Lab ID: 2008370-001

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	89	60		mg/Kg	20	8/12/2020 10:26:41 PM	54380
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/12/2020 6:40:33 PM	54278
Surr: BFB	99.6	70-130		%Rec	1	8/12/2020 6:40:33 PM	54278
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/12/2020 11:03:51 PM	54310
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/12/2020 11:03:51 PM	54310
Surr: DNOP	72.5	30.4-154		%Rec	1	8/12/2020 11:03:51 PM	54310
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	8/12/2020 6:40:33 PM	54278
Toluene	ND	0.049		mg/Kg	1	8/12/2020 6:40:33 PM	54278
Ethylbenzene	ND	0.049		mg/Kg	1	8/12/2020 6:40:33 PM	54278
Xylenes, Total	ND	0.098		mg/Kg	1	8/12/2020 6:40:33 PM	54278
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	8/12/2020 6:40:33 PM	54278
Surr: 4-Bromofluorobenzene	96.0	70-130		%Rec	1	8/12/2020 6:40:33 PM	54278
Surr: Dibromofluoromethane	113	70-130		%Rec	1	8/12/2020 6:40:33 PM	54278
Surr: Toluene-d8	95.2	70-130		%Rec	1	8/12/2020 6:40:33 PM	54278

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

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

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## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-10 E. Wall

Project: Red Hills Water Management System

Collection Date: 8/5/2020 10:25:00 AM

Lab ID: 2008370-002

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: CJS
Chloride	62	60		mg/Kg	20	8/12/2020 11:03:42 PM	54380
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/12/2020 7:09:10 PM	54278
Surr: BFB	101	70-130		%Rec	1	8/12/2020 7:09:10 PM	54278
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/12/2020 11:28:16 PM	54310
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/12/2020 11:28:16 PM	54310
Surr: DNOP	65.4	30.4-154		%Rec	1	8/12/2020 11:28:16 PM	54310
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	8/12/2020 7:09:10 PM	54278
Toluene	ND	0.048		mg/Kg	1	8/12/2020 7:09:10 PM	54278
Ethylbenzene	ND	0.048		mg/Kg	1	8/12/2020 7:09:10 PM	54278
Xylenes, Total	ND	0.096		mg/Kg	1	8/12/2020 7:09:10 PM	54278
Surr: 1,2-Dichloroethane-d4	95.2	70-130		%Rec	1	8/12/2020 7:09:10 PM	54278
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	8/12/2020 7:09:10 PM	54278
Surr: Dibromofluoromethane	109	70-130		%Rec	1	8/12/2020 7:09:10 PM	54278
Surr: Toluene-d8	96.2	70-130		%Rec	1	8/12/2020 7:09:10 PM	54278

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

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

## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-10 W. Wall

Project: Red Hills Water Management System

Collection Date: 8/5/2020 10:28:00 AM

Lab ID: 2008370-003

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: CJS
Chloride	72	61		mg/Kg	20	8/12/2020 11:16:02 PM	54380
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/12/2020 7:37:45 PM	54278
Surr: BFB	102	70-130		%Rec	1	8/12/2020 7:37:45 PM	54278
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/12/2020 12:07:52 PM	54338
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/12/2020 12:07:52 PM	54338
Surr: DNOP	85.5	30.4-154		%Rec	1	8/12/2020 12:07:52 PM	54338
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	8/12/2020 7:37:45 PM	54278
Toluene	ND	0.048		mg/Kg	1	8/12/2020 7:37:45 PM	54278
Ethylbenzene	ND	0.048		mg/Kg	1	8/12/2020 7:37:45 PM	54278
Xylenes, Total	ND	0.097		mg/Kg	1	8/12/2020 7:37:45 PM	54278
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	8/12/2020 7:37:45 PM	54278
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	8/12/2020 7:37:45 PM	54278
Surr: Dibromofluoromethane	113	70-130		%Rec	1	8/12/2020 7:37:45 PM	54278
Surr: Toluene-d8	95.0	70-130		%Rec	1	8/12/2020 7:37:45 PM	54278

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

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

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## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-10 Floor

Project: Red Hills Water Management System

Collection Date: 8/5/2020 10:30:00 AM

Lab ID: 2008370-004

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: CJS
Chloride	390	60		mg/Kg	20	8/12/2020 11:28:23 PM	54380
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/12/2020 8:06:18 PM	54278
Surr: BFB	98.1	70-130		%Rec	1	8/12/2020 8:06:18 PM	54278
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/12/2020 12:36:40 PM	54338
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/12/2020 12:36:40 PM	54338
Surr: DNOP	98.1	30.4-154		%Rec	1	8/12/2020 12:36:40 PM	54338
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	8/12/2020 8:06:18 PM	54278
Toluene	ND	0.048		mg/Kg	1	8/12/2020 8:06:18 PM	54278
Ethylbenzene	ND	0.048		mg/Kg	1	8/12/2020 8:06:18 PM	54278
Xylenes, Total	ND	0.096		mg/Kg	1	8/12/2020 8:06:18 PM	54278
Surr: 1,2-Dichloroethane-d4	96.2	70-130		%Rec	1	8/12/2020 8:06:18 PM	54278
Surr: 4-Bromofluorobenzene	98.2	70-130		%Rec	1	8/12/2020 8:06:18 PM	54278
Surr: Dibromofluoromethane	111	70-130		%Rec	1	8/12/2020 8:06:18 PM	54278
Surr: Toluene-d8	94.2	70-130		%Rec	1	8/12/2020 8:06:18 PM	54278

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

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

## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-11 E. Wall

Project: Red Hills Water Management System

Collection Date: 8/5/2020 10:36:00 AM

Lab ID: 2008370-005

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: CJS
Chloride	79	60		mg/Kg	20	8/12/2020 11:40:43 PM	54380
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/12/2020 8:34:50 PM	54278
Surr: BFB	108	70-130		%Rec	1	8/12/2020 8:34:50 PM	54278
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/12/2020 12:46:18 PM	54338
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/12/2020 12:46:18 PM	54338
Surr: DNOP	90.6	30.4-154		%Rec	1	8/12/2020 12:46:18 PM	54338
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	8/12/2020 8:34:50 PM	54278
Toluene	ND	0.050		mg/Kg	1	8/12/2020 8:34:50 PM	54278
Ethylbenzene	ND	0.050		mg/Kg	1	8/12/2020 8:34:50 PM	54278
Xylenes, Total	ND	0.10		mg/Kg	1	8/12/2020 8:34:50 PM	54278
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	8/12/2020 8:34:50 PM	54278
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	8/12/2020 8:34:50 PM	54278
Surr: Dibromofluoromethane	116	70-130		%Rec	1	8/12/2020 8:34:50 PM	54278
Surr: Toluene-d8	100	70-130		%Rec	1	8/12/2020 8:34:50 PM	54278

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

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

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## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-11 W Wall

Project: Red Hills Water Management System

Collection Date: 8/5/2020 10:33:00 AM

Lab ID: 2008370-006

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: CJS
Chloride	66	60		mg/Kg	20	8/12/2020 11:53:03 PM	54380
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/12/2020 9:03:23 PM	54278
Surr: BFB	104	70-130		%Rec	1	8/12/2020 9:03:23 PM	54278
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/12/2020 12:55:58 PM	54338
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/12/2020 12:55:58 PM	54338
Surr: DNOP	86.6	30.4-154		%Rec	1	8/12/2020 12:55:58 PM	54338
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	8/12/2020 9:03:23 PM	54278
Toluene	ND	0.049		mg/Kg	1	8/12/2020 9:03:23 PM	54278
Ethylbenzene	ND	0.049		mg/Kg	1	8/12/2020 9:03:23 PM	54278
Xylenes, Total	ND	0.099		mg/Kg	1	8/12/2020 9:03:23 PM	54278
Surr: 1,2-Dichloroethane-d4	99.2	70-130		%Rec	1	8/12/2020 9:03:23 PM	54278
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/12/2020 9:03:23 PM	54278
Surr: Dibromofluoromethane	112	70-130		%Rec	1	8/12/2020 9:03:23 PM	54278
Surr: Toluene-d8	95.8	70-130		%Rec	1	8/12/2020 9:03:23 PM	54278

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

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

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## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-11 Floor

Project: Red Hills Water Management System

Collection Date: 8/5/2020 11:30:00 AM

Lab ID: 2008370-007

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: CJS
Chloride	450	60		mg/Kg	20	8/13/2020 12:05:25 AM	54380
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/12/2020 9:31:53 PM	54278
Surr: BFB	102	70-130		%Rec	1	8/12/2020 9:31:53 PM	54278
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/12/2020 1:05:38 PM	54338
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/12/2020 1:05:38 PM	54338
Surr: DNOP	76.4	30.4-154		%Rec	1	8/12/2020 1:05:38 PM	54338
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.023		mg/Kg	1	8/12/2020 9:31:53 PM	54278
Toluene	ND	0.047		mg/Kg	1	8/12/2020 9:31:53 PM	54278
Ethylbenzene	ND	0.047		mg/Kg	1	8/12/2020 9:31:53 PM	54278
Xylenes, Total	ND	0.094		mg/Kg	1	8/12/2020 9:31:53 PM	54278
Surr: 1,2-Dichloroethane-d4	95.3	70-130		%Rec	1	8/12/2020 9:31:53 PM	54278
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/12/2020 9:31:53 PM	54278
Surr: Dibromofluoromethane	106	70-130		%Rec	1	8/12/2020 9:31:53 PM	54278
Surr: Toluene-d8	96.3	70-130		%Rec	1	8/12/2020 9:31:53 PM	54278

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

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

## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-12 E Wall

Project: Red Hills Water Management System

Collection Date: 8/5/2020 9:25:00 AM

Lab ID: 2008370-008

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	480	60		mg/Kg	20	8/13/2020 12:17:46 AM	54380
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/12/2020 10:00:23 PM	54278
Surr: BFB	106	70-130		%Rec	1	8/12/2020 10:00:23 PM	54278
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/12/2020 1:15:17 PM	54338
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/12/2020 1:15:17 PM	54338
Surr: DNOP	72.7	30.4-154		%Rec	1	8/12/2020 1:15:17 PM	54338
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	8/12/2020 10:00:23 PM	54278
Toluene	ND	0.049		mg/Kg	1	8/12/2020 10:00:23 PM	54278
Ethylbenzene	ND	0.049		mg/Kg	1	8/12/2020 10:00:23 PM	54278
Xylenes, Total	ND	0.098		mg/Kg	1	8/12/2020 10:00:23 PM	54278
Surr: 1,2-Dichloroethane-d4	96.4	70-130		%Rec	1	8/12/2020 10:00:23 PM	54278
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	8/12/2020 10:00:23 PM	54278
Surr: Dibromofluoromethane	109	70-130		%Rec	1	8/12/2020 10:00:23 PM	54278
Surr: Toluene-d8	99.7	70-130		%Rec	1	8/12/2020 10:00:23 PM	54278

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

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

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## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-12 W Wall

Project: Red Hills Water Management System

Collection Date: 8/5/2020 9:30:00 AM

Lab ID: 2008370-009

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: CJS
Chloride	180	60		mg/Kg	20	8/13/2020 12:54:48 AM	54380
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/12/2020 10:28:50 PM	54278
Surr: BFB	104	70-130		%Rec	1	8/12/2020 10:28:50 PM	54278
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	8/12/2020 1:24:58 PM	54338
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/12/2020 1:24:58 PM	54338
Surr: DNOP	87.9	30.4-154		%Rec	1	8/12/2020 1:24:58 PM	54338
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	8/12/2020 10:28:50 PM	54278
Toluene	ND	0.049		mg/Kg	1	8/12/2020 10:28:50 PM	54278
Ethylbenzene	ND	0.049		mg/Kg	1	8/12/2020 10:28:50 PM	54278
Xylenes, Total	ND	0.097		mg/Kg	1	8/12/2020 10:28:50 PM	54278
Surr: 1,2-Dichloroethane-d4	97.7	70-130		%Rec	1	8/12/2020 10:28:50 PM	54278
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	8/12/2020 10:28:50 PM	54278
Surr: Dibromofluoromethane	107	70-130		%Rec	1	8/12/2020 10:28:50 PM	54278
Surr: Toluene-d8	96.3	70-130		%Rec	1	8/12/2020 10:28:50 PM	54278

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

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

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## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-12 Floor

Project: Red Hills Water Management System

Collection Date: 8/5/2020 9:35:00 AM

Lab ID: 2008370-010

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	330	60		mg/Kg	20	8/13/2020 1:07:09 AM	54380
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/13/2020 12:51:14 AM	54278
Surr: BFB	105	70-130		%Rec	1	8/13/2020 12:51:14 AM	54278
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/12/2020 1:34:40 PM	54338
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/12/2020 1:34:40 PM	54338
Surr: DNOP	77.7	30.4-154		%Rec	1	8/12/2020 1:34:40 PM	54338
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	8/13/2020 12:51:14 AM	54278
Toluene	ND	0.047		mg/Kg	1	8/13/2020 12:51:14 AM	54278
Ethylbenzene	ND	0.047		mg/Kg	1	8/13/2020 12:51:14 AM	54278
Xylenes, Total	ND	0.095		mg/Kg	1	8/13/2020 12:51:14 AM	54278
Surr: 1,2-Dichloroethane-d4	95.5	70-130		%Rec	1	8/13/2020 12:51:14 AM	54278
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/13/2020 12:51:14 AM	54278
Surr: Dibromofluoromethane	106	70-130		%Rec	1	8/13/2020 12:51:14 AM	54278
Surr: Toluene-d8	96.7	70-130		%Rec	1	8/13/2020 12:51:14 AM	54278

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

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

## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-13 E Wall

Project: Red Hills Water Management System

Collection Date: 8/5/2020 10:40:00 AM

Lab ID: 2008370-011

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: CJS
Chloride	350	59		mg/Kg	20	8/13/2020 1:19:30 AM	54380
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/13/2020 1:19:53 AM	54278
Surr: BFB	101	70-130		%Rec	1	8/13/2020 1:19:53 AM	54278
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/12/2020 1:44:23 PM	54338
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/12/2020 1:44:23 PM	54338
Surr: DNOP	70.2	30.4-154		%Rec	1	8/12/2020 1:44:23 PM	54338
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	8/13/2020 1:19:53 AM	54278
Toluene	ND	0.048		mg/Kg	1	8/13/2020 1:19:53 AM	54278
Ethylbenzene	ND	0.048		mg/Kg	1	8/13/2020 1:19:53 AM	54278
Xylenes, Total	ND	0.097		mg/Kg	1	8/13/2020 1:19:53 AM	54278
Surr: 1,2-Dichloroethane-d4	99.5	70-130		%Rec	1	8/13/2020 1:19:53 AM	54278
Surr: 4-Bromofluorobenzene	99.0	70-130		%Rec	1	8/13/2020 1:19:53 AM	54278
Surr: Dibromofluoromethane	110	70-130		%Rec	1	8/13/2020 1:19:53 AM	54278
Surr: Toluene-d8	93.9	70-130		%Rec	1	8/13/2020 1:19:53 AM	54278

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

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

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## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-13 W Wall

Project: Red Hills Water Management System

Collection Date: 8/5/2020 10:38:00 AM

Lab ID: 2008370-012

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	450	60		mg/Kg	20	8/14/2020 1:08:04 PM	54391
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/13/2020 1:48:29 AM	54278
Surr: BFB	101	70-130		%Rec	1	8/13/2020 1:48:29 AM	54278
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	8/12/2020 1:54:09 PM	54338
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/12/2020 1:54:09 PM	54338
Surr: DNOP	69.8	30.4-154		%Rec	1	8/12/2020 1:54:09 PM	54338
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	8/13/2020 1:48:29 AM	54278
Toluene	ND	0.050		mg/Kg	1	8/13/2020 1:48:29 AM	54278
Ethylbenzene	ND	0.050		mg/Kg	1	8/13/2020 1:48:29 AM	54278
Xylenes, Total	ND	0.099		mg/Kg	1	8/13/2020 1:48:29 AM	54278
Surr: 1,2-Dichloroethane-d4	99.6	70-130		%Rec	1	8/13/2020 1:48:29 AM	54278
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	8/13/2020 1:48:29 AM	54278
Surr: Dibromofluoromethane	110	70-130		%Rec	1	8/13/2020 1:48:29 AM	54278
Surr: Toluene-d8	95.5	70-130		%Rec	1	8/13/2020 1:48:29 AM	54278

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

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

## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-13 Floor

Project: Red Hills Water Management System

Collection Date: 8/5/2020 10:45:00 AM

Lab ID: 2008370-013

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	470	60		mg/Kg	20	8/14/2020 1:45:18 PM	54391
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/12/2020 2:03:56 PM	54338
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/12/2020 2:03:56 PM	54338
Surr: DNOP	77.1	30.4-154		%Rec	1	8/12/2020 2:03:56 PM	54338
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/11/2020 8:42:45 PM	54294
Surr: BFB	100	75.3-105		%Rec	1	8/11/2020 8:42:45 PM	54294
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	8/11/2020 8:42:45 PM	54294
Toluene	ND	0.046		mg/Kg	1	8/11/2020 8:42:45 PM	54294
Ethylbenzene	ND	0.046		mg/Kg	1	8/11/2020 8:42:45 PM	54294
Xylenes, Total	ND	0.093		mg/Kg	1	8/11/2020 8:42:45 PM	54294
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/11/2020 8:42:45 PM	54294

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

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

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## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-14 E. Wall

Project: Red Hills Water Management System

Collection Date: 8/5/2020 10:55:00 AM

Lab ID: 2008370-014

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	280	60		mg/Kg	20	8/14/2020 1:57:42 PM	54391
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	8/12/2020 2:13:43 PM	54338
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/12/2020 2:13:43 PM	54338
Surr: DNOP	71.5	30.4-154		%Rec	1	8/12/2020 2:13:43 PM	54338
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/11/2020 9:06:06 PM	54294
Surr: BFB	99.4	75.3-105		%Rec	1	8/11/2020 9:06:06 PM	54294
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	8/11/2020 9:06:06 PM	54294
Toluene	ND	0.047		mg/Kg	1	8/11/2020 9:06:06 PM	54294
Ethylbenzene	ND	0.047		mg/Kg	1	8/11/2020 9:06:06 PM	54294
Xylenes, Total	ND	0.095		mg/Kg	1	8/11/2020 9:06:06 PM	54294
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	8/11/2020 9:06:06 PM	54294

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

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

## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-14 W. Wall

Project: Red Hills Water Management System

Collection Date: 8/5/2020 10:50:00 AM

Lab ID: 2008370-015

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	160	60		mg/Kg	20	8/14/2020 2:10:06 PM	54391
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/12/2020 2:23:30 PM	54338
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/12/2020 2:23:30 PM	54338
Surr: DNOP	92.7	30.4-154		%Rec	1	8/12/2020 2:23:30 PM	54338
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/12/2020 9:37:08 AM	54303
Surr: BFB	101	75.3-105		%Rec	1	8/12/2020 9:37:08 AM	54303
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	8/12/2020 9:37:08 AM	54303
Toluene	ND	0.047		mg/Kg	1	8/12/2020 9:37:08 AM	54303
Ethylbenzene	ND	0.047		mg/Kg	1	8/12/2020 9:37:08 AM	54303
Xylenes, Total	ND	0.095		mg/Kg	1	8/12/2020 9:37:08 AM	54303
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/12/2020 9:37:08 AM	54303

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

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

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## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-14 Floor

Project: Red Hills Water Management System

Collection Date: 8/5/2020 11:00:00 AM

Lab ID: 2008370-016

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	370	60		mg/Kg	20	8/14/2020 2:22:30 PM	54391
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/12/2020 2:33:21 PM	54338
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/12/2020 2:33:21 PM	54338
Surr: DNOP	71.5	30.4-154		%Rec	1	8/12/2020 2:33:21 PM	54338
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/12/2020 10:48:23 AM	54303
Surr: BFB	102	75.3-105		%Rec	1	8/12/2020 10:48:23 AM	54303
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/12/2020 10:48:23 AM	54303
Toluene	ND	0.050		mg/Kg	1	8/12/2020 10:48:23 AM	54303
Ethylbenzene	ND	0.050		mg/Kg	1	8/12/2020 10:48:23 AM	54303
Xylenes, Total	ND	0.10		mg/Kg	1	8/12/2020 10:48:23 AM	54303
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	8/12/2020 10:48:23 AM	54303

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

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

## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-15 E Wall

Project: Red Hills Water Management System

Collection Date: 8/5/2020 11:09:00 AM

Lab ID: 2008370-017

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	360	60		mg/Kg	20	8/14/2020 2:34:54 PM	54391
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/12/2020 2:43:14 PM	54338
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/12/2020 2:43:14 PM	54338
Surr: DNOP	85.5	30.4-154		%Rec	1	8/12/2020 2:43:14 PM	54338
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/12/2020 11:59:00 AM	54303
Surr: BFB	101	75.3-105		%Rec	1	8/12/2020 11:59:00 AM	54303
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	8/12/2020 11:59:00 AM	54303
Toluene	ND	0.049		mg/Kg	1	8/12/2020 11:59:00 AM	54303
Ethylbenzene	ND	0.049		mg/Kg	1	8/12/2020 11:59:00 AM	54303
Xylenes, Total	ND	0.098		mg/Kg	1	8/12/2020 11:59:00 AM	54303
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	8/12/2020 11:59:00 AM	54303

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

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

## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-15 W Wall

Project: Red Hills Water Management System

Collection Date: 8/5/2020 11:20:00 AM

Lab ID: 2008370-018

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	150	60		mg/Kg	20	8/13/2020 6:36:08 PM	54391
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/12/2020 2:53:06 PM	54338
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/12/2020 2:53:06 PM	54338
Surr: DNOP	88.3	30.4-154		%Rec	1	8/12/2020 2:53:06 PM	54338
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/12/2020 12:22:29 PM	54303
Surr: BFB	102	75.3-105		%Rec	1	8/12/2020 12:22:29 PM	54303
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	8/12/2020 12:22:29 PM	54303
Toluene	ND	0.048		mg/Kg	1	8/12/2020 12:22:29 PM	54303
Ethylbenzene	ND	0.048		mg/Kg	1	8/12/2020 12:22:29 PM	54303
Xylenes, Total	ND	0.096		mg/Kg	1	8/12/2020 12:22:29 PM	54303
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	8/12/2020 12:22:29 PM	54303

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

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

## Analytical Report

Lab Order 2008370

Date Reported: 8/17/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-15 Floor

Project: Red Hills Water Management System

Collection Date: 8/5/2020 11:15:00 AM

Lab ID: 2008370-019

Matrix: SOIL

Received Date: 8/7/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	350	60		mg/Kg	20	8/13/2020 6:48:29 PM	54391
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/12/2020 3:03:00 PM	54338
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/12/2020 3:03:00 PM	54338
Surr: DNOP	78.9	30.4-154		%Rec	1	8/12/2020 3:03:00 PM	54338
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/12/2020 12:45:59 PM	54303
Surr: BFB	103	75.3-105		%Rec	1	8/12/2020 12:45:59 PM	54303
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	8/12/2020 12:45:59 PM	54303
Toluene	ND	0.048		mg/Kg	1	8/12/2020 12:45:59 PM	54303
Ethylbenzene	ND	0.048		mg/Kg	1	8/12/2020 12:45:59 PM	54303
Xylenes, Total	ND	0.097		mg/Kg	1	8/12/2020 12:45:59 PM	54303
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	8/12/2020 12:45:59 PM	54303

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

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

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008370

17-Aug-20

**Client:** Mewbourne Oil Company  
**Project:** Red Hills Water Management System

Sample ID: <b>MB-54380</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54380</b>	RunNo: <b>71037</b>								
Prep Date: <b>8/12/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2475492</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-54380</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54380</b>	RunNo: <b>71037</b>								
Prep Date: <b>8/12/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2475493</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.2	90	110			

Sample ID: <b>MB-54391</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54391</b>	RunNo: <b>71071</b>								
Prep Date: <b>8/13/2020</b>	Analysis Date: <b>8/13/2020</b>	SeqNo: <b>2476918</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-54391</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54391</b>	RunNo: <b>71071</b>								
Prep Date: <b>8/13/2020</b>	Analysis Date: <b>8/13/2020</b>	SeqNo: <b>2476919</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.4	90	110			

Sample ID: <b>MB-54391</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54391</b>	RunNo: <b>71086</b>								
Prep Date: <b>8/13/2020</b>	Analysis Date: <b>8/14/2020</b>	SeqNo: <b>2478022</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-54391</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54391</b>	RunNo: <b>71086</b>								
Prep Date: <b>8/13/2020</b>	Analysis Date: <b>8/14/2020</b>	SeqNo: <b>2478023</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.9	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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008370

17-Aug-20

**Client:** Mewbourne Oil Company  
**Project:** Red Hills Water Management System

Sample ID: <b>MB-54338</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54338</b>	RunNo: <b>71011</b>								
Prep Date: <b>8/11/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474097</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		111	30.4	154			

Sample ID: <b>LCS-54338</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54338</b>	RunNo: <b>71011</b>								
Prep Date: <b>8/11/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474098</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	10	50.00	0	110	70	130			
Surr: DNOP	5.1		5.000		101	30.4	154			

Sample ID: <b>MB-54340</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54340</b>	RunNo: <b>71011</b>								
Prep Date: <b>8/11/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474101</b> Units: <b>%Rec</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		123	30.4	154			

Sample ID: <b>LCS-54340</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54340</b>	RunNo: <b>71011</b>								
Prep Date: <b>8/11/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474102</b> Units: <b>%Rec</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.9		5.000		119	30.4	154			

Sample ID: <b>LCS-54310</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54310</b>	RunNo: <b>70976</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474236</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	70	130			
Surr: DNOP	4.1		5.000		82.1	30.4	154			

Sample ID: <b>MB-54310</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54310</b>	RunNo: <b>70976</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474237</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008370

17-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>MB-54310</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54310</b>	RunNo: <b>70976</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474237</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.0		10.00		90.4	30.4	154			

Sample ID: <b>2008370-003AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>SP-10 W. Wall</b>	Batch ID: <b>54338</b>	RunNo: <b>71030</b>								
Prep Date: <b>8/11/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474867</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	9.9	49.26	0	115	47.4	136			
Surr: DNOP	4.4		4.926		89.4	30.4	154			

Sample ID: <b>2008370-003AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>SP-10 W. Wall</b>	Batch ID: <b>54338</b>	RunNo: <b>71030</b>								
Prep Date: <b>8/11/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474868</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	9.5	47.35	0	103	47.4	136	14.4	43.4	
Surr: DNOP	4.0		4.735		84.5	30.4	154	0	0	

Sample ID: <b>LCS-54339</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54339</b>	RunNo: <b>71030</b>								
Prep Date: <b>8/11/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474930</b>			Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		90.9	30.4	154			

Sample ID: <b>LCS-54341</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54341</b>	RunNo: <b>71030</b>								
Prep Date: <b>8/11/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474931</b>			Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.6		5.000		113	30.4	154			

Sample ID: <b>MB-54339</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54339</b>	RunNo: <b>71030</b>								
Prep Date: <b>8/11/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474932</b>			Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.8		10.00		98.3	30.4	154			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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QC SUMMARY REPORT  
Hall Environmental Analysis Laboratory, Inc.

WO#: 2008370  
17-Aug-20

Client: Mewbourne Oil Company  
Project: Red Hills Water Management System

Sample ID: MB-54341	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 54341	RunNo: 71030								
Prep Date: 8/11/2020	Analysis Date: 8/12/2020	SeqNo: 2474933	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	13		10.00		129	30.4	154			

Qualifiers:

- \*

Value exceeds Maximum Contaminant Level.
- D

Sample Diluted Due to Matrix
- H

Holding times for preparation or analysis exceeded
- ND

Not Detected at the Reporting Limit
- PQL

Practical Quantitative Limit
- S

% Recovery outside of range due to dilution or matrix
- B

Analyte detected in the associated Method Blank
- E

Value above quantitation range
- J

Analyte detected below quantitation limits
- P

Sample pH Not In Range
- RL

Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008370

17-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>mb-54294</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>54294</b>			RunNo: <b>70988</b>						
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/11/2020</b>			SeqNo: <b>2473128</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	75.3	105			

Sample ID: <b>lcs-54294</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>54294</b>			RunNo: <b>70988</b>						
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/11/2020</b>			SeqNo: <b>2473129</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.0	72.5	106			
Surr: BFB	1100		1000		115	75.3	105			S

Sample ID: <b>mb-54303</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>PBS</b>	Batch ID: <b>54303</b>			RunNo: <b>71021</b>						
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>			SeqNo: <b>2474593</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		101	75.3	105			

Sample ID: <b>lcs-54303</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>54303</b>			RunNo: <b>71021</b>						
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>			SeqNo: <b>2474594</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.2	72.5	106			
Surr: BFB	1100		1000		109	75.3	105			S

Sample ID: <b>2008370-015ams</b>	SampType: <b>MS</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>SP-14 W. Wall</b>	Batch ID: <b>54303</b>			RunNo: <b>71021</b>						
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>			SeqNo: <b>2474596</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.53	0	87.4	61.3	114			
Surr: BFB	1100		981.4		110	75.3	105			S

Sample ID: <b>2008370-015amsd</b>	SampType: <b>MSD</b>			TestCode: <b>EPA Method 8015D: Gasoline Range</b>						
Client ID: <b>SP-14 W. Wall</b>	Batch ID: <b>54303</b>			RunNo: <b>71021</b>						
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>			SeqNo: <b>2474597</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008370

17-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>2008370-015amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>SP-14 W. Wall</b>	Batch ID: <b>54303</b>	RunNo: <b>71021</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474597</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.8	24.15	0	87.2	61.3	114	1.70	20	
Surr: BFB	1100		966.2		109	75.3	105	0	0	S

Sample ID: <b>mb-54306</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54306</b>	RunNo: <b>71021</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474617</b>	Units: <b>%Rec</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		105	75.3	105			S

Sample ID: <b>lcs-54306</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54306</b>	RunNo: <b>71021</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474618</b>	Units: <b>%Rec</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1200		1000		116	75.3	105			S

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008370

17-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>mb-54294</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54294</b>	RunNo: <b>70988</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/11/2020</b>	SeqNo: <b>2473168</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID: <b>LCS-54294</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54294</b>	RunNo: <b>70988</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/11/2020</b>	SeqNo: <b>2473169</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.8	80	120			
Toluene	0.95	0.050	1.000	0	95.5	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.1	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.8	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

Sample ID: <b>mb-54303</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54303</b>	RunNo: <b>71021</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474639</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID: <b>LCS-54303</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54303</b>	RunNo: <b>71021</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474640</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.2	80	120			
Toluene	0.95	0.050	1.000	0	95.1	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.5	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.4	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008370

17-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>2008370-016ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>SP-14 Floor</b>	Batch ID: <b>54303</b>	RunNo: <b>71021</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474643</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.4	76.3	120			
Toluene	0.95	0.050	1.000	0.01259	93.9	78.5	120			
Ethylbenzene	0.98	0.050	1.000	0	97.5	78.1	124			
Xylenes, Total	2.9	0.10	3.000	0.01658	96.8	79.3	125			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	80	120			

Sample ID: <b>2008370-016amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>SP-14 Floor</b>	Batch ID: <b>54303</b>	RunNo: <b>71021</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474644</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.023	0.9372	0	92.8	76.3	120	5.00	20	
Toluene	0.90	0.047	0.9372	0.01259	94.3	78.5	120	5.89	20	
Ethylbenzene	0.91	0.047	0.9372	0	97.3	78.1	124	6.69	20	
Xylenes, Total	2.8	0.094	2.812	0.01658	97.6	79.3	125	5.67	20	
Surr: 4-Bromofluorobenzene	1.0		0.9372		110	80	120	0	0	

Sample ID: <b>mb-54306</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54306</b>	RunNo: <b>71021</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474663</b>	Units: <b>%Rec</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID: <b>LCS-54306</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54306</b>	RunNo: <b>71021</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2474664</b>	Units: <b>%Rec</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008370

17-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>mb-54278</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54278</b>	RunNo: <b>70994</b>								
Prep Date: <b>8/8/2020</b>	Analysis Date: <b>8/11/2020</b>	SeqNo: <b>2473459</b>			Units: <b>mg/Kg</b>					
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: 1,2-Dichloroethane-d4	0.47		0.5000		95.0	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		106	70	130			
Surr: Toluene-d8	0.47		0.5000		94.7	70	130			

Sample ID: <b>lcs-54278</b>	SampType: <b>LCS4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>BatchQC</b>	Batch ID: <b>54278</b>	RunNo: <b>70994</b>								
Prep Date: <b>8/8/2020</b>	Analysis Date: <b>8/11/2020</b>	SeqNo: <b>2473460</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	103	80	120			
Toluene	1.0	0.050	1.000	0	104	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.4	0.10	3.000	0	113	80	120			
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		98.2	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		101	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		105	70	130			
Surr: Toluene-d8	0.46		0.5000		92.9	70	130			

Sample ID: <b>lcs-54311</b>	SampType: <b>LCS4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>BatchQC</b>	Batch ID: <b>54311</b>	RunNo: <b>71042</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2475755</b>			Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		95.9	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.9	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		106	70	130			
Surr: Toluene-d8	0.49		0.5000		97.9	70	130			

Sample ID: <b>mb-54311</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54311</b>	RunNo: <b>71042</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2475756</b>			Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		97.6	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.6	70	130			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2008370

17-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>mb-54311</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54311</b>	RunNo: <b>71042</b>								
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>	SeqNo: <b>2475756</b>	Units: <b>%Rec</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	0.56		0.5000		112	70	130			
Surr: Toluene-d8	0.49		0.5000		98.6	70	130			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008370

17-Aug-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>Ics-54278</b>	SampType: <b>LCS</b>				TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>					
Client ID: <b>LCSS</b>	Batch ID: <b>54278</b>				RunNo: <b>70994</b>					
Prep Date: <b>8/8/2020</b>	Analysis Date: <b>8/11/2020</b>				SeqNo: <b>2473496</b>	Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	89.0	70	130			
Surr: BFB	500		500.0		99.3	70	130			

Sample ID: <b>mb-54278</b>	SampType: <b>MBLK</b>				TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>					
Client ID: <b>PBS</b>	Batch ID: <b>54278</b>				RunNo: <b>70994</b>					
Prep Date: <b>8/8/2020</b>	Analysis Date: <b>8/11/2020</b>				SeqNo: <b>2473497</b>	Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	510		500.0		102	70	130			

Sample ID: <b>Ics-54311</b>	SampType: <b>LCS</b>				TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>					
Client ID: <b>LCSS</b>	Batch ID: <b>54311</b>				RunNo: <b>71042</b>					
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>				SeqNo: <b>2475801</b>	Units: <b>%Rec</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	510		500.0		101	70	130			

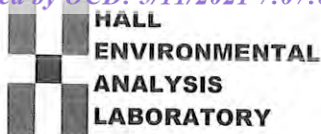
Sample ID: <b>mb-54311</b>	SampType: <b>MBLK</b>				TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>					
Client ID: <b>PBS</b>	Batch ID: <b>54311</b>				RunNo: <b>71042</b>					
Prep Date: <b>8/10/2020</b>	Analysis Date: <b>8/12/2020</b>				SeqNo: <b>2475802</b>	Units: <b>%Rec</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	510		500.0		101	70	130			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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

## Sample Log-In Check List

Client Name: Mewbourne Oil Company

Work Order Number: 2008370

RcptNo: 1

Received By: Cheyenne Cason 8/7/2020 8:00:00 AM

Completed By: Leah Baca 8/7/2020 9:52:09 AM

Reviewed By: SPA 8.7.20 11:25

Leah Baca

Chain of Custody1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? Client

Log In3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐5. Sample(s) in proper container(s)? Yes ☒ No ☐6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐9. Received at least 1 vial with headspace  $<1/4$ " for AQ VOA? Yes ☐ No ☐ NA ☒10. Were any sample containers received broken? Yes ☐ No ☒11. Does paperwork match bottle labels? Yes ☒ No ☐

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐13. Is it clear what analyses were requested? Yes ☒ No ☐14. Were all holding times able to be met? Yes ☒ No ☐

(If no, notify customer for authorization.)

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

Adjusted?

Checked by

CNC 8/11/20

Special Handling (if applicable)15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date:

By Whom:

Via:

☐ eMail☐ Phone☐ Fax☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

## 17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.1	Good				
2	5.8	Good				
3	5.9	Good				
4	0.3	Good				

Released to Imaging: 6/18/2021 4:02:15 PM

☐ EDD (Type)

7100 8370

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

### Analysis Request

Please contact Ben Arguijo at (575)390-7208 for any questions or problems with this COC.





Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

September 02, 2020

Robbie Runnels  
Mewbourne Oil Company  
PO Box 5270  
Hobbs, NM 88241  
TEL: (575) 393-5905  
FAX

RE: Red Hills Water Management System

OrderNo.: 2008D83

Dear Robbie Runnels:

Hall Environmental Analysis Laboratory received 4 sample(s) on 8/26/2020 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](http://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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 2008D83

Date Reported: 9/2/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-1 N. Wall

Project: Red Hills Water Management System

Collection Date: 8/25/2020 9:00:00 AM

Lab ID: 2008D83-001

Matrix: SOIL

Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: CAS
Chloride	300	60		mg/Kg	20	8/31/2020 4:01:21 PM	54813
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/28/2020 6:39:08 PM	54729
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/28/2020 6:39:08 PM	54729
Surr: DNOP	92.8	30.4-154		%Rec	1	8/28/2020 6:39:08 PM	54729
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/27/2020 8:47:29 PM	54720
Surr: BFB	98.2	75.3-105		%Rec	1	8/27/2020 8:47:29 PM	54720
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/27/2020 8:47:29 PM	54720
Toluene	ND	0.046		mg/Kg	1	8/27/2020 8:47:29 PM	54720
Ethylbenzene	ND	0.046		mg/Kg	1	8/27/2020 8:47:29 PM	54720
Xylenes, Total	ND	0.093		mg/Kg	1	8/27/2020 8:47:29 PM	54720
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/27/2020 8:47:29 PM	54720

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

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

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## Analytical Report

Lab Order 2008D83

Date Reported: 9/2/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-4 E.Wall

Project: Red Hills Water Management System

Collection Date: 8/25/2020 9:30:00 AM

Lab ID: 2008D83-002

Matrix: SOIL

Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: CAS
Chloride	600	60		mg/Kg	20	8/31/2020 4:13:46 PM	54813
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/28/2020 6:49:11 PM	54729
Motor Oil Range Organics (MRO)	53	49		mg/Kg	1	8/28/2020 6:49:11 PM	54729
Surr: DNOP	79.7	30.4-154		%Rec	1	8/28/2020 6:49:11 PM	54729
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/27/2020 9:10:58 PM	54720
Surr: BFB	100	75.3-105		%Rec	1	8/27/2020 9:10:58 PM	54720
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/27/2020 9:10:58 PM	54720
Toluene	ND	0.048		mg/Kg	1	8/27/2020 9:10:58 PM	54720
Ethylbenzene	ND	0.048		mg/Kg	1	8/27/2020 9:10:58 PM	54720
Xylenes, Total	ND	0.097		mg/Kg	1	8/27/2020 9:10:58 PM	54720
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	8/27/2020 9:10:58 PM	54720

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

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

Page 2 of 8

## Analytical Report

Lab Order 2008D83

Date Reported: 9/2/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-6 E.Wall

Project: Red Hills Water Management System

Collection Date: 8/25/2020 10:00:00 AM

Lab ID: 2008D83-003

Matrix: SOIL

Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: CAS
Chloride	290	60		mg/Kg	20	8/31/2020 4:26:11 PM	54813
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/28/2020 6:59:06 PM	54729
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/28/2020 6:59:06 PM	54729
Surr: DNOP	101	30.4-154		%Rec	1	8/28/2020 6:59:06 PM	54729
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/27/2020 10:44:46 PM	54720
Surr: BFB	98.6	75.3-105		%Rec	1	8/27/2020 10:44:46 PM	54720
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/27/2020 10:44:46 PM	54720
Toluene	ND	0.048		mg/Kg	1	8/27/2020 10:44:46 PM	54720
Ethylbenzene	ND	0.048		mg/Kg	1	8/27/2020 10:44:46 PM	54720
Xylenes, Total	ND	0.095		mg/Kg	1	8/27/2020 10:44:46 PM	54720
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	8/27/2020 10:44:46 PM	54720

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

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

## Analytical Report

Lab Order 2008D83

Date Reported: 9/2/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP-8 S.Wall

Project: Red Hills Water Management System

Collection Date: 8/25/2020 10:30:00 AM

Lab ID: 2008D83-004

Matrix: SOIL

Received Date: 8/26/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: CAS
Chloride	320	60		mg/Kg	20	8/31/2020 4:38:35 PM	54813
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/28/2020 7:09:04 PM	54729
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/28/2020 7:09:04 PM	54729
Surr: DNOP	77.8	30.4-154		%Rec	1	8/28/2020 7:09:04 PM	54729
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/27/2020 11:08:09 PM	54720
Surr: BFB	99.7	75.3-105		%Rec	1	8/27/2020 11:08:09 PM	54720
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/27/2020 11:08:09 PM	54720
Toluene	ND	0.047		mg/Kg	1	8/27/2020 11:08:09 PM	54720
Ethylbenzene	ND	0.047		mg/Kg	1	8/27/2020 11:08:09 PM	54720
Xylenes, Total	ND	0.095		mg/Kg	1	8/27/2020 11:08:09 PM	54720
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	8/27/2020 11:08:09 PM	54720

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

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

Page 4 of 8

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**WO#: **2008D83****02-Sep-20****Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>MB-54813</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54813</b>	RunNo: <b>71527</b>								
Prep Date: <b>8/31/2020</b>	Analysis Date: <b>8/31/2020</b>	SeqNo: <b>2498376</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-54813</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54813</b>	RunNo: <b>71527</b>								
Prep Date: <b>8/31/2020</b>	Analysis Date: <b>8/31/2020</b>	SeqNo: <b>2498377</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.5	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 Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008D83

02-Sep-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>LCS-54739</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54739</b>	RunNo: <b>71513</b>								
Prep Date: <b>8/27/2020</b>	Analysis Date: <b>8/28/2020</b>	SeqNo: <b>2497971</b>			Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		92.7	30.4	154			

Sample ID: <b>MB-54739</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54739</b>	RunNo: <b>71513</b>								
Prep Date: <b>8/27/2020</b>	Analysis Date: <b>8/28/2020</b>	SeqNo: <b>2497972</b>			Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.3		10.00		92.8	30.4	154			

Sample ID: <b>LCS-54729</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54729</b>	RunNo: <b>71513</b>								
Prep Date: <b>8/27/2020</b>	Analysis Date: <b>8/28/2020</b>	SeqNo: <b>2498054</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	101	70	130			
Surr: DNOP	4.8		5.000		96.0	30.4	154			

Sample ID: <b>MB-54729</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54729</b>	RunNo: <b>71513</b>								
Prep Date: <b>8/27/2020</b>	Analysis Date: <b>8/28/2020</b>	SeqNo: <b>2498056</b>			Units: <b>mg/Kg</b>					
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	9.0		10.00		90.0	30.4	154			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008D83

02-Sep-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>Ics-54699</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54699</b>	RunNo: <b>71413</b>								
Prep Date: <b>8/26/2020</b>	Analysis Date: <b>8/27/2020</b>	SeqNo: <b>2494653</b>			Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		111	75.3	105			S

Sample ID: <b>Ics-54720</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54720</b>	RunNo: <b>71413</b>								
Prep Date: <b>8/26/2020</b>	Analysis Date: <b>8/27/2020</b>	SeqNo: <b>2494654</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.5	72.5	106			
Surr: BFB	1100		1000		110	75.3	105			S

Sample ID: <b>MB-54699</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54699</b>	RunNo: <b>71413</b>								
Prep Date: <b>8/26/2020</b>	Analysis Date: <b>8/27/2020</b>	SeqNo: <b>2494655</b>			Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	930		1000		93.5	75.3	105			

Sample ID: <b>mb-54720</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54720</b>	RunNo: <b>71413</b>								
Prep Date: <b>8/26/2020</b>	Analysis Date: <b>8/27/2020</b>	SeqNo: <b>2494656</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	980		1000		97.9	75.3	105			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2008D83

02-Sep-20

**Client:** Mewbourne Oil Company**Project:** Red Hills Water Management System

Sample ID: <b>LCS-54699</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54699</b>	RunNo: <b>71413</b>								
Prep Date: <b>8/26/2020</b>	Analysis Date: <b>8/27/2020</b>	SeqNo: <b>2494691</b>			Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID: <b>LCS-54720</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54720</b>	RunNo: <b>71413</b>								
Prep Date: <b>8/26/2020</b>	Analysis Date: <b>8/27/2020</b>	SeqNo: <b>2494692</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	1.000	0	87.3	80	120			
Toluene	0.86	0.050	1.000	0	86.5	80	120			
Ethylbenzene	0.87	0.050	1.000	0	86.8	80	120			
Xylenes, Total	2.6	0.10	3.000	0	87.4	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID: <b>MB-54699</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54699</b>	RunNo: <b>71413</b>								
Prep Date: <b>8/26/2020</b>	Analysis Date: <b>8/27/2020</b>	SeqNo: <b>2494693</b>			Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.99		1.000		98.6	80	120			

Sample ID: <b>mb-54720</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54720</b>	RunNo: <b>71413</b>								
Prep Date: <b>8/26/2020</b>	Analysis Date: <b>8/27/2020</b>	SeqNo: <b>2494694</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit



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

## Sample Log-In Check List

Client Name: Mewbourne Oil Company

Work Order Number: 2008D83

RcptNo: 1

Received By: Cheyenne Cason 8/26/2020 8:00:00 AM

Completed By: Juan Rojas 8/26/2020 9:14:26 AM

Reviewed By: Em 8/26/20

*Juan Rojas*

### Chain of Custody

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

### Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐  
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐  
5. Sample(s) in proper container(s)? Yes ☒ No ☐  
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐  
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐  
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐  
9. Received at least 1 vial with headspace  $<1/4"$  for AQ VOA? Yes ☐ No ☐ NA ☒  
10. Were any sample containers received broken? Yes ☐ No ☒  
11. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐  
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐  
13. Is it clear what analyses were requested? Yes ☒ No ☐  
14. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

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

Adjusted? \_\_\_\_\_

Checked by: SPA 8.26.20

### Special Handling (if applicable)

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

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

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.4	Good				
2	5.2	Good				
3	2.2	Good				
4	0.3	Good				

Released to Imaging: 6/18/2021 4:02:15 PM

[illegible]

Container Type and #	Preservative Type	HEAL No 1005807
----------------------	-------------------	--------------------

## Analysis Request

[illegible]

Date:	Time:	Relinquished by:
8/25/330		Kevin [signature]

Received by	Via:	Date	Time
		8/2/20	1530

Remarks: Please email results to [rrunnels@mewbourne.com](mailto:rrunnels@mewbourne.com)  
& [ben@trinityoilfieldservices.com](mailto:ben@trinityoilfieldservices.com)

Date:	Time:	Relinquished by:
11/10/10	1900	[Signature]

Received by: <i>AM</i>	Via: <i>cert</i>	Date: <i>8/26/20</i>	Time: <i>0800</i>
------------------------	------------------	----------------------	-------------------

Please contact Ben Arguijo at (575)390-7208 for any questions or problems with this COC.  $0.4 - 0.1 = 0.3$   
 $55 - 0.1 = 54.9$   $5.3 - 0.1 = 5.2$   $2.3 - 0.1 = 2.2$

# **Appendix F**

## **Multimedia Exposure Assessment Model**

### **(MULTIMED)**

Released to Imaging: 5/18/2021 4:02:15 PM

Received by OCD: 5/11/2021 7:07:09 AM

U. S. ENVIRONMENTAL PROTECTION AGENCY  
EXPOSURE ASSESSMENT  
MULTIMEDIA MODEL  
MULTIMED (Version 1.50, 2005)

Run options  
-----

Mt. Airborne Oil Company  
  
Fol Hills Water Management System  
Chemical simulated is Chloride

Option Chosen Saturated and unsaturated zone models  
Run was DETERMIN  
Infiltration Specified By User: 3.048E-02 m/yr  
Run was transient  
Well Times: Entered Explicitly  
Reject runs if Y coordinate outside plume  
Reject runs if Z coordinate outside plume  
Gaussian source used in saturated zone model

UNSATURATED ZONE FLOW MODEL PARAMETERS  
(input parameter description and value)  
NP - Total number of nodal points 240  
NMAT - Number of different porous materials 1  
KPROP - Van Genuchten or Brooks and Corey 1  
IMSHGN - Spatial discretization option 1  
NVFLAYR - Number of layers in flow model 1

OPTIONS CHOSEN  
-----  
Van Genuchten functional coefficients  
User defined coordinate system

Layer information  
-----

LAYER NO.	LAYER THICKNESS	MATERIAL PROPERTY
-----	-----	-----
1	46.63	1

VADOSE ZONE MATERIAL VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAMETERS		LIMITS	
			MEAN	STD DEV	MIN	MAX
Saturated hydraulic conductivity	cm/hr	CONSTANT	3.60	-999.	-999.	-999.
Unsaturated zone porosity	--	CONSTANT	0.250	-999.	-999.	-999.
Air entry pressure head	m	CONSTANT	0.700	-999.	-999.	-999.
Depth of the unsaturated zone	m	CONSTANT	46.6	0.000	0.000	0.000

DATA FOR MATERIAL 1

VADOSE ZONE FUNCTION VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAMETERS		LIMITS	
			MEAN	STD DEV	MIN	MAX
Residual water content	--	CONSTANT	0.116	-999.	-999.	-999.
Brook and Corey exponent, EN	--	CONSTANT	-999.	-999.	-999.	-999.
ALFA coefficient	1/cm	CONSTANT	0.500E-02	-999.	-999.	-999.
Van Genuchten exponent, ENN	--	CONSTANT	1.09	-999.	-999.	-999.

1

UNSATURATED ZONE TRANSPORT MODEL PARAMETERS

NLAY - Number of different layers used 1  
 NTSTPS - Number of time values concentration calc 40  
 DUMMY - Not presently used 1  
 ISOL - Type of scheme used in unsaturated zone 2  
 N - Stehfest terms or number of increments 18  
 NTEL - Points in Lagrangian interpolation 3  
 NGPTS - Number of Gauss points 104  
 NIT - Convolution integral segments 2  
 IBOUND - Type of boundary condition 3  
 ITSGEN - Time values generated or input 1  
 TMAX - Max simulation time -- 0.0  
 WTFUN - Weighting factor -- 1.2

OPTIONS CHOSEN

-----  
 Convolution integral approach  
 Exponentially decaying continuous source  
 Computer generated times for computing concentrations

1

DATA FOR LAYER 1

VADOSE TRANSPORT VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAMETERS		LIMITS	
			MEAN	STD DEV	MIN	MAX
Thickness of layer	m	CONSTANT	46.6	-999.	-999.	-999.
Longitudinal dispersivity of layer	m	DERIVED	-999.	-999.	-999.	-999.
Percent organic matter	--	CONSTANT	0.000	-999.	-999.	-999.
Bulk density of soil for layer	g/cc	CONSTANT	1.99	-999.	-999.	-999.
Biological decay coefficient	1/yr	CONSTANT	0.000	-999.	-999.	-999.

## CHEMICAL SPECIFIC VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAMETERS		LIMITS	
			MEAN	STD DEV	MIN	MAX
Solid phase decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.
Dissolved phase decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.
Overall chemical decay coefficient	1/yr	DERIVED	-999.	-999.	-999.	-999.
Acid catalyzed hydrolysis rate	1/M-yr	CONSTANT	0.000	-999.	-999.	-999.
Neutral hydrolysis rate constant	1/yr	CONSTANT	0.000	-999.	-999.	-999.
Base catalyzed hydrolysis rate	1/M-yr	CONSTANT	0.000	-999.	-999.	-999.
Reference temperature	C	CONSTANT	25.0	-999.	-999.	-999.
Normalized distribution coefficient	ml/g	CONSTANT	0.000	-999.	-999.	-999.
Distribution coefficient	--	DERIVED	-999.	-999.	-999.	-999.
Biodegradation coefficient (sat. zone)	1/yr	CONSTANT	0.000	-999.	-999.	-999.
Air diffusion coefficient	cm2/s	CONSTANT	-999.	-999.	-999.	-999.
Reference temperature for air diffusion	C	CONSTANT	-999.	-999.	-999.	-999.
Molecular weight	g/M	CONSTANT	-999.	-999.	-999.	-999.
Mole fraction of solute	--	CONSTANT	-999.	-999.	-999.	-999.
Vapor pressure of solute	mm Hg	CONSTANT	-999.	-999.	-999.	-999.
Henry`s law constant	atm-m^3/M	CONSTANT	-999.	-999.	-999.	-999.
Overall 1st order decay sat. zone	1/yr	DERIVED	0.000	0.000	0.000	1.00
Not currently used		CONSTANT	0.000	0.000	0.000	0.000
Not currently used		CONSTANT	0.000	0.000	0.000	0.000

## SOURCE SPECIFIC VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAMETERS		LIMITS	
			MEAN	STD DEV	MIN	MAX
Infiltration rate	m/yr	CONSTANT	0.305E-01	-999.	-999.	-999.
Area of waste disposal unit	m^2	CONSTANT	74.3	-999.	-999.	-999.
Duration of pulse	yr	DERIVED	0.100E-08	-999.	-999.	-999.
Spread of contaminant source	m	DERIVED	-999.	-999.	-999.	-999.
Recharge rate	m/yr	CONSTANT	0.000	-999.	-999.	-999.
Source decay constant	1/yr	CONSTANT	0.250E-01	0.000	0.000	0.000
Initial concentration at landfill	mg/l	CONSTANT	0.360E+04	-999.	-999.	-999.
Length scale of facility	m	DERIVED	-999.	-999.	-999.	-999.
Width scale of facility	m	DERIVED	-999.	-999.	-999.	-999.
Near field dilution		DERIVED	1.00	0.000	0.000	1.00

## AQUIFER SPECIFIC VARIABLES

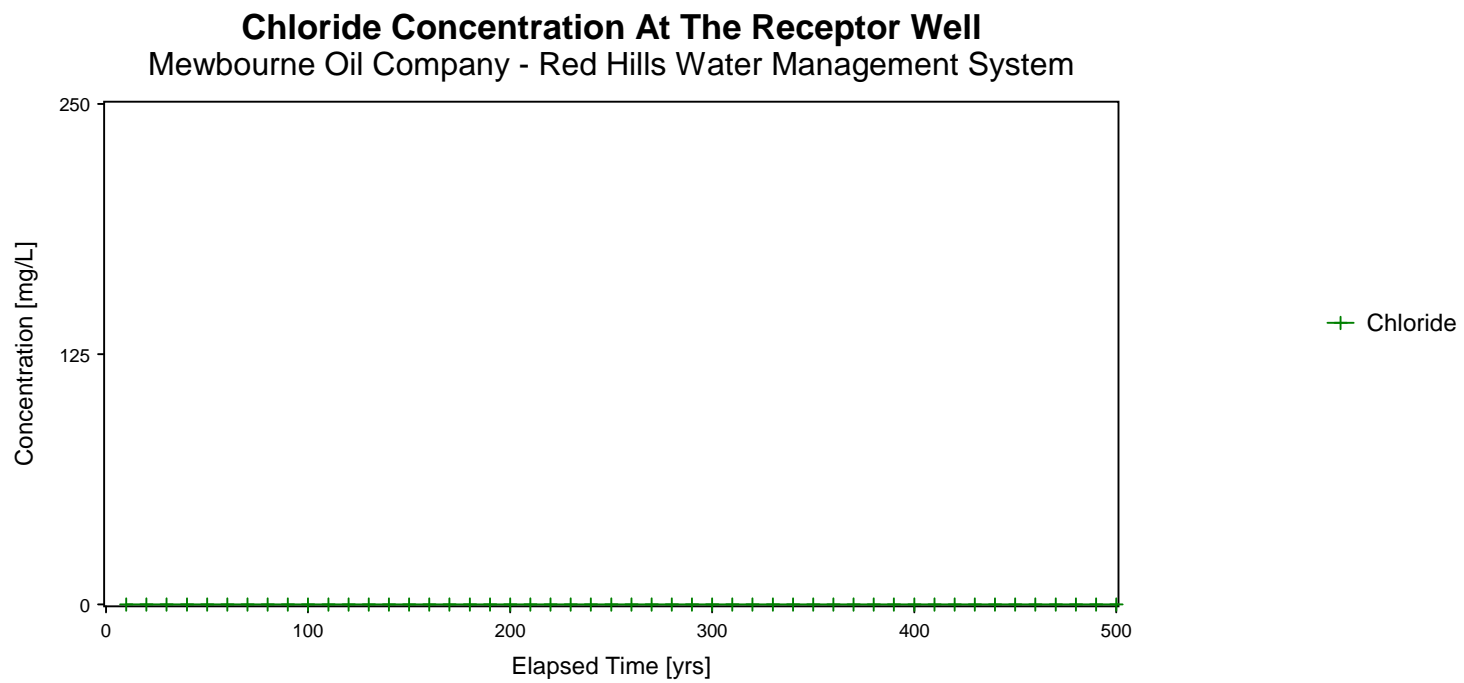
VARIABLE NAME	UNITS	DISTRIBUTION	PARAMETERS		LIMITS	
			MEAN	STD DEV	MIN	MAX
Particle diameter	cm	CONSTANT	-999.	-999.	-999.	-999.
Aquifer porosity	--	CONSTANT	0.300	-999.	-999.	-999.
Bulk density	g/cc	CONSTANT	1.86	-999.	-999.	-999.
Aquifer thickness	m	CONSTANT	6.10	-999.	-999.	-999.
Source thickness (mixing zone depth)	m	DERIVED	-999.	-999.	-999.	-999.
Conductivity (hydraulic)	m/yr	CONSTANT	315.	-999.	-999.	-999.
Gradient (hydraulic)		CONSTANT	0.300E-02	-999.	-999.	-999.
Groundwater seepage velocity	m/yr	DERIVED	-999.	-999.	-999.	-999.
Retardation coefficient	--	DERIVED	-999.	-999.	-999.	-999.
Longitudinal dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.
Transverse dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.
Vertical dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.
Temperature of aquifer	C	CONSTANT	20.0	-999.	-999.	-999.
pH	--	CONSTANT	7.00	-999.	-999.	-999.
Organic carbon content (fraction)		CONSTANT	0.000	-999.	-999.	-999.
Well distance from site	m	CONSTANT	1.00	-999.	-999.	-999.
Angle off center	degree	CONSTANT	0.000	-999.	-999.	-999.
Well vertical distance	m	CONSTANT	0.000	-999.	-999.	-999.

TIME                      CONCENTRATION

0.100E+02	0.00000E+00
0.200E+02	0.00000E+00
0.300E+02	0.00000E+00
0.400E+02	0.00000E+00
0.500E+02	0.00000E+00
0.600E+02	0.00000E+00
0.700E+02	0.00000E+00
0.800E+02	0.00000E+00
0.900E+02	0.00000E+00
0.100E+03	0.00000E+00
0.110E+03	0.00000E+00
0.120E+03	0.00000E+00
0.130E+03	0.00000E+00
0.140E+03	0.00000E+00
0.150E+03	0.00000E+00
0.160E+03	0.00000E+00
0.170E+03	0.00000E+00
0.180E+03	0.00000E+00
0.190E+03	0.00000E+00
0.200E+03	0.00000E+00
0.210E+03	0.00000E+00
0.220E+03	0.00000E+00
0.230E+03	0.00000E+00
0.240E+03	0.00000E+00
0.250E+03	0.00000E+00
0.260E+03	0.00000E+00
0.270E+03	0.00000E+00
0.280E+03	0.00000E+00
0.290E+03	0.00000E+00

0.300E+03 0.00000E+00  
0.310E+03 0.00000E+00  
0.320E+03 0.00000E+00  
0.330E+03 0.00000E+00  
0.340E+03 0.00000E+00  
0.350E+03 0.00000E+00  
0.360E+03 0.00000E+00  
0.370E+03 0.00000E+00  
0.380E+03 0.00000E+00  
0.390E+03 0.00000E+00  
0.400E+03 0.00000E+00  
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0.530E+03 0.00000E+00  
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0.570E+03 0.00000E+00  
0.580E+03 0.00000E+00  
0.590E+03 0.00000E+00  
0.600E+03 0.00000E+00  
0.610E+03 0.00000E+00  
0.620E+03 0.00000E+00  
0.630E+03 0.00000E+00  
0.640E+03 0.00000E+00  
0.650E+03 0.00000E+00  
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0.730E+03 0.00000E+00  
0.740E+03 0.00000E+00  
0.750E+03 0.00000E+00  
0.760E+03 0.00000E+00  
0.770E+03 0.00000E+00  
0.780E+03 0.00000E+00  
0.790E+03 0.00000E+00  
0.800E+03 0.00000E+00  
0.810E+03 0.00000E+00  
0.820E+03 0.00000E+00  
0.830E+03 0.00000E+00  
0.840E+03 0.00000E+00  
0.850E+03 0.00000E+00  
0.860E+03 0.00000E+00

0.870E+03	0.00000E+00
0.880E+03	0.00000E+00
0.890E+03	0.00000E+00
0.900E+03	0.00000E+00
0.910E+03	0.00000E+00
0.920E+03	0.00000E+00
0.930E+03	0.00000E+00
0.940E+03	0.00000E+00
0.950E+03	0.00000E+00
0.960E+03	0.00000E+00
0.970E+03	0.00000E+00
0.980E+03	0.00000E+00
0.990E+03	0.00000E+00
0.100E+04	0.00000E+00



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**District IV**

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

CONDITIONS

Action 27672

**CONDITIONS**

Operator: MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM 88241	OGRID: 14744
	Action Number: 27672
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
kcollins	Variance is approved with the following condition: - Upon closure of site the area must be cleaned to regulations before final approval.	6/18/2021