

Incident ID	
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ >55 (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 type="checkbox"/> Yes <input checked="" 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.

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Robbie Runnels Title: Environmental Specialist

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

email: rrunnels@mewbourne.com Telephone: 575-602-2188

**OCD Only**

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

Incident ID	
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## Remediation Plan

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

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

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

- Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- Extents of contamination must be fully delineated.
- Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Robbie Runnels Title: Environmental Specialist

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

email: rrunnels@mewbourne.com Telephone: 575-602-2188

**OCD Only**

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

- Approved       Approved with Attached Conditions of Approval       Denied       Deferral Approved

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

# Site Assessment Report and Proposed Remediation Workplan

## Mewbourne Oil Company

### Hoss 11 SWD #1

Eddy County, New Mexico

Unit Letter A, D, Section 11, 12, Township 25 South, Range 28 East

Latitude 32.151564 North, Longitude 104.050164 West

**NMOCD Reference No. pending**

Prepared By:

### Etech Environmental & Safety Solutions, Inc.

3100 Plains Highway

Lovington, New Mexico 88260



Lance Crenshaw



Joel W. Lowry



Midland • San Antonio • Lubbock • Lovington • Lafayette

## TABLE OF CONTENTS

	<i>Section</i>
PROJECT INFORMATION.....	<b>1.0</b>
SITE CHARACTERIZATION.....	<b>2.0</b>
CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE.....	<b>3.0</b>
INITIAL SITE ASSESSMENT.....	<b>4.0</b>
PROPOSED REMEDIATION PLAN.....	<b>5.0</b>
SAMPLING PLAN.....	<b>6.0</b>
TIMELINE AND ESTIMATED VOLUME OF SOIL TO BE REMEDIATED.....	<b>7.0</b>
DEFERRAL REQUEST.....	<b>8.0</b>
RESTORATION, RECLAMATION AND RE-VEGETATION PLAN.....	<b>9.0</b>
LIMITATIONS.....	<b>10.0</b>
DISTRIBUTION.....	<b>11.0</b>

### FIGURES

- Figure 1 - Topographic Map
- Figure 2 - Aerial Proximity Map
- Figure 3 - Site & Sample Location Map

### TABLES

- Table 1 - Concentrations of BTEX, TPH and/or Chloride in Soil

### APPENDICES

- Appendix A - Depth to Groundwater Information
- Appendix B - Field Data and Soil Profile Logs
- Appendix C - Laboratory Analytical Reports
- Appendix D - Photographic Log
- Appendix E - Cave/Karst Survey Report and Drilling Report

### 1.0 PROJECT INFORMATION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of Mewbourne Oil Company, has prepared this Report for the Release Site known as the Hoss 11 SWD #1. Details of the release are summarized below:

<b>Location of Release Source</b>				
Latitude: _____		32.151564		Longitude: _____
				-104.050164
Provided GPS are in WGS84 format.				
Site Name: _____		Hoss 11 SWD #1		Site Type: _____
				SWD
Date Release Discovered: _____		6/29/2020		API # (if applicable): _____
				30-015-44666
Unit Letter	Section	Township	Range	County
A, D	11, 12	25S	28E	Eddy
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Federal <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Private (Name _____ Joy Cooksey _____)				
<b>Nature and Volume of Release</b>				
<input type="checkbox"/> Crude Oil	Volume Released (bbls)		Volume Recovered (bbls)	
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls)      100		Volume Recovered (bbls)      70	
	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"/> N/A	
<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		Volume/Weight Recovered	
Cause of Release: Hammer Union on the discharge line parted.				
<b>Initial Response</b>				
<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"/> Release materials have been contained via the use of berms or dikes, absorbent pad, or other containment devices <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.				

Previously submitted portions of the NMOCD Form C-141 are available on the NMOCD Imaging System.

## 2.0 SITE CHARACTERIZATION

A search of groundwater databases maintained by the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey (USGS) was conducted in an effort to determine the horizontal distance to known water sources within a half mile radius of the Release Site. Probable groundwater depth was determined using data generated by numeric models based on available water well data and published information. In addition, a borehole was drilled to 55 Ft. bgs in an effort to determine if groundwater was present at depths shallower than 50 Ft. in the vicinity of the Site. Depth to groundwater information is provided as Appendix A.

What is the shallowest depth to groundwater beneath the area affected by the release?	>55'	
Did the 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
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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 not on an exploration, development, production or storage site?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

NMOCD Siting Criteria data was gathered from available resources including Bureau of Land Management (BLM) shapefiles; topographic maps; NMOSE and USGS databases; aerial imagery; a karst survey conducted a Mewbourne third-party contractor; and a drill report prepared by a Mewbourne third-party contractor. The results are depicted on Figures 1 & 2. Copies of the karst survey and drill report are included in Appendix E.

### 3.0 CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE

Based on the volume and nature of the release, inferred depth to groundwater and NMOCD Siting Criteria, the NMOCD Closure Criteria for the Site is as follows:

Closure Criteria for Soil Impacted by a Release			
Probable Depth to Groundwater	Constituent	Method	Limit
>55'	Chloride	EPA 300.0 or SM4500 Cl B	10000 mg/kg
	TPH (GRO + DRO + MRO)	EPA SW-846 Method 8015M Ext	2500 mg/kg
	DRO + GRO	EPA SW-846 Method 8015M	1000 mg/kg
	BTEX	EPA SW-846 Methods 8021b or 8260b	50 mg/kg
	Benzene	EPA SW-846 Methods 8021b or 8260b	10 mg/kg

### 4.0 INITIAL SITE ASSESSMENT

On July 15, 2020, Etech conducted an initial site assessment. During the initial site assessment, a series of hand-augered soil bores (SP1 through SP10) were advanced within the release margins in an effort to determine the vertical extent of soil impacts. In addition, hand-augered soil bores (NH1B, NH2, EH1, EH2, EH3, SH1, SH2, SH3D, WH1, and WH2) were advanced at the inferred edges of the affected area in an effort to determine the horizontal extent of soil impacts. During the advancement of the hand-augered soil bores, field soil samples were collected and field-screened for the presence of Volatile Organic Compounds utilizing a Photoionization Detector (PID) and/or concentrations of chloride utilizing a Hach Quantab® chloride test kit. A "Site & Sample Location Map" is provided as Figure 3. Field data and soil profile logs, if applicable, are provided as Appendix B.

Based on field observations and field test data, forty (40) delineation soil samples (EH1 Surf., EH1 1', EH2 Surf., EH2 1', EH3 Surf., EH3 1', NH1B Surf., NH1A 1', NH2 Surf., NH2 1', WH1 Surf., WH1 1', WH2 Surf., WH2 1', SH1 Surf., SH1 1', SH2 Surf., SH2 1', SH3D Surf., SH3D 1', SP1 Surf., SP1 1', SP2 Surf., SP2 2' SP3 Surf., SP3 1', SP4 Surf., SP4 4', SP5 Surf., SP5 1', SP6 Surf., SP6 1', SP7 Surf., SP7 2', SP8 Surf., SP8 13', SP9 Surf., SP9 6', SP10 Surf., and SP10 2') were submitted to the laboratory for analysis of BTEX, TPH and chloride. Based on laboratory analytical results, soil was not affected above the NMOCD Closure Criteria and/or NMOCD Reclamation Standard beyond 4 Ft. bgs and the horizontal extent of affected soil impacted above the NMOCD Closure Criteria and/or NMOCD Reclamation Standard was adequately defined. A "Soil Chemistry Table" is provided as Table 1. Laboratory Analytical Reports are provided in Appendix C.

### 5.0 PROPOSED REMEDIATION PLAN

Based on laboratory analytical results, site characteristics and field observations made during the initial site assessment, Mewbourne Oil Company proposes the following remediation activities designed to advance the Site toward an approved closure:

- Utilizing mechanical equipment, excavate impacted soil within the release margins. The floors and sidewalls of the excavation will be advanced until laboratory analytical results indicate BTEX, TPH and chloride concentrations are below the NMOCD Closure Criteria and/or NMOCD Reclamation Standard.
- Impacted soil adjacent to the on-site electrical facilities, containment, associated piping, and equipment will be excavated to the maximum extent practicable.
- Upon receiving laboratory analytical results from excavation confirmation soil samples, backfill the excavated area with locally sourced, non-impacted "like" material.
- Upon completion of remediation activities, a *Remediation Summary and Deferral Request* will be prepared detailing field activities and laboratory analytical results from confirmation soil samples. The Remediation Summary and Deferral Request will include a scaled map depicting impacted soil affected above the NMOCD Closure Criteria remaining in-situ.
- Etech maintains excavation of impacted soil beneath and adjacent to the on-site electrical facilities, containment and associated equipment poses a risk to human health and safety and will require a major facility deconstruction. Impacted soil

affected above the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard will be remediated upon decommissioning the facility.

## **6.0 SAMPLING PLAN**

Upon completion of excavation activities, representative five-point composite excavation confirmation soil samples will be collected from the excavation sidewalls in each cardinal direction, representing no more than 50 linear ft. A minimum of one (1) representative five-point composite excavation confirmation soil sample will be collected from the base of the excavated area representing every 300 square feet. Additional, discrete grab samples will be collected from wet or visibly stained areas inferred to have been affected by the release, as necessary.

## **7.0 TIMELINE AND ESTIMATED VOLUME OF SOIL TO BE REMEDIATED**

Remediation activities are expected to be completed within 90 days of receiving necessary approval(s) of the Site Assessment Summary and Proposed Remediation Plan. Based on laboratory analytical results, site characteristics and field observations made during the initial site assessment it is estimated that approximately 21,740 cubic yards is in need of removal.

## **8.0 DEFERRAL REQUEST**

Based on laboratory analytical results and field observations, Mewbourne requests NMOCD approval to defer remediation of impacted soil affected above the NMOCD Closure Criteria beneath and adjacent to the on-site electrical facilities, containment and associated equipment. Impacted soil affected above the NMOCD Closure Criteria present on the well pad will be remediated upon decommissioning the facility. Mewbourne maintains remediation of impacted soil affected above the NMOCD Closure Criteria beneath and adjacent to the on-site electrical facilities, containment and associated equipment may pose a risk to human health and safety and would result in a major facility deconstruction. Remediation of impacted soil affected above the NMOCD Closure Criteria remaining in-situ beneath the lined tank battery facility will be completed upon abandoning and decommissioning the facility.

## **9.0 RESTORATION, RECLAMATION AND RE-VEGETATION PLAN**

Areas affected by remediation and closure activities will be substantially restored to the condition that existed prior to the release, to the extent practicable. Excavated areas will be backfilled with locally sourced, non-impacted "like" material placed at or near original relative positions. The affected area will be contoured and/or compacted to achieve erosion control, stability and preservation of surface water flow to the extent practicable. Affected areas not on production pads and/or lease roads will be reseeded with a landowner-approved seed mixture during the first favorable growing season following closure of the site.

Final reclamation and re-vegetation of the affected area on the facility well pad will be conducted in accordance with NMAC 19.15.29.13 upon decommissioning the facility.

## **10.0 LIMITATIONS**

Etech Environmental & Safety Solutions, Inc., has prepared this Site Assessment Report and Proposed Remediation Plan to the best of its ability. No other warranty, expressed or implied, is made or intended. Etech has examined and relied upon documents reference in the report and on oral statements made by certain individuals. Etech has not conducted an independent examination of the facts contained in referenced materials and statements. Etech has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Etech has prepared the report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Etech notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Mewbourne Oil Company. Use of the information contained in this report is prohibited without the consent of Etech and/or Mewbourne Oil Company.

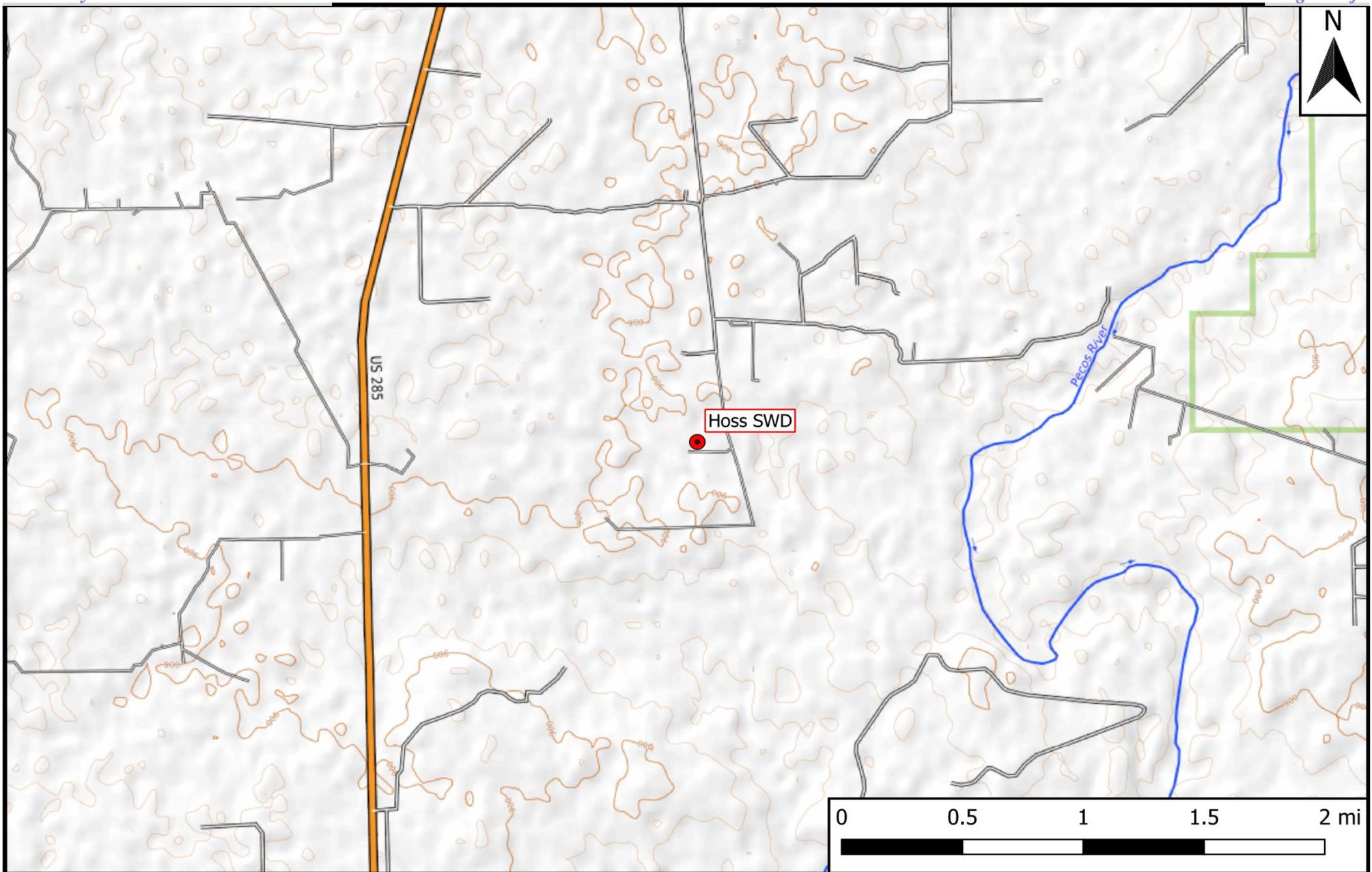
## 11.0 DISTRIBUTION

*Mewbourne Oil Company*  
4801 Business Park Blvd.  
Hobbs, NM 88240

*New Mexico Energy, Minerals and Natural Resources Department*  
Oil Conservation Division, District 2  
811 S. First Street  
Artesia, NM 88210

*(Electronic Submission)*

# Figure 1 Topographic Map



Legend

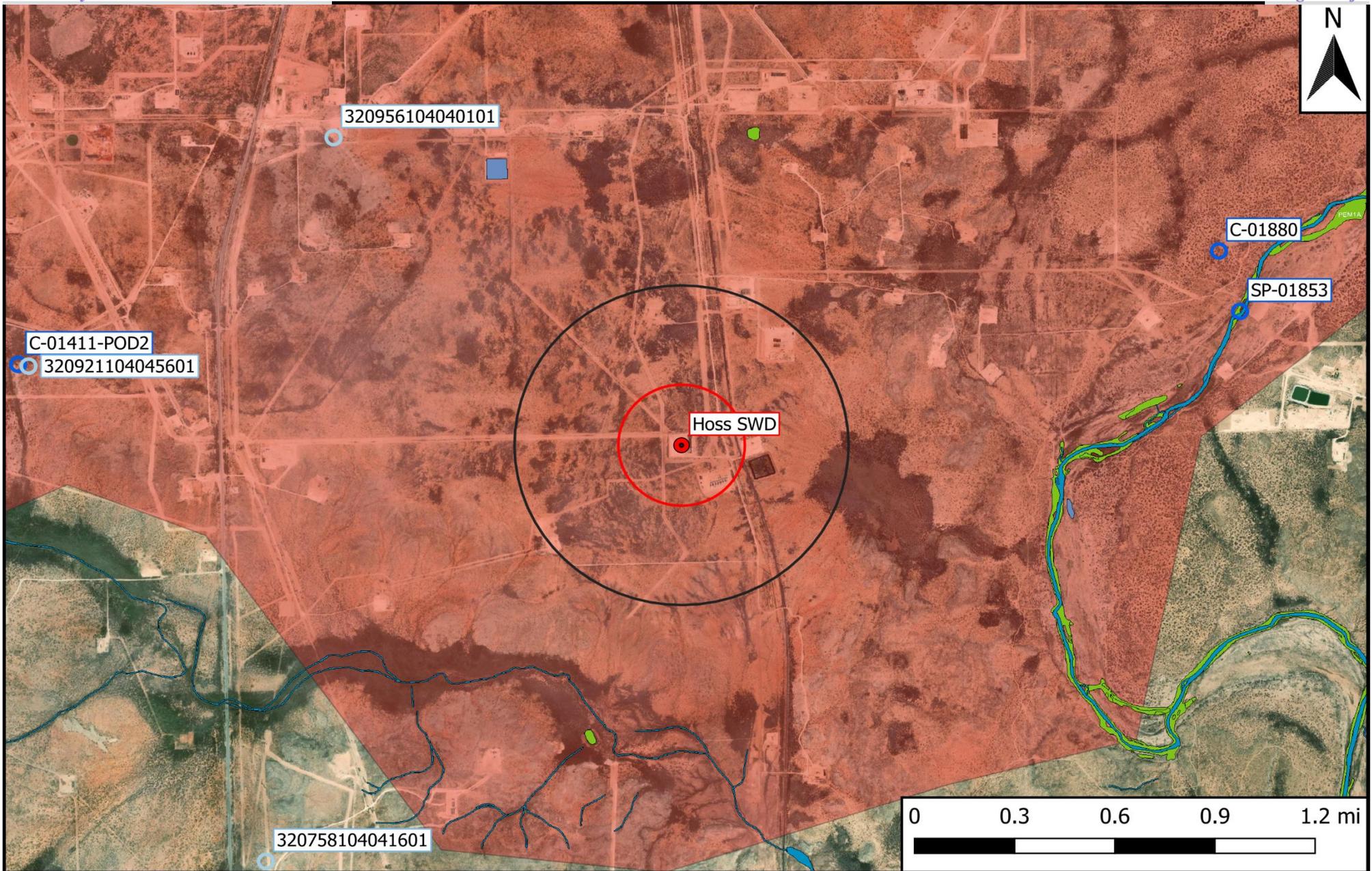
- Site Location

**Figure 1**  
Topographic Map  
Mewbourne Oil Company  
Hoss 11 SWD #1  
GPS: 32.151564, -104.050164  
Eddy County



Drafted: mag    Checked: jwl    Date: 8/25/20

## Figure 2 Aerial Proximity Map



Legend	
<span style="color: red;">●</span> Site Location	<span style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px; display: inline-block;"></span> 0.5 Mi Radius
<span style="border: 1px solid blue; border-radius: 50%; width: 10px; height: 10px; display: inline-block;"></span> Well - NMOSE	<span style="border: 2px solid red; border-radius: 50%; width: 20px; height: 20px; display: inline-block;"></span> 1000 Ft Radius
<span style="border: 1px solid lightblue; border-radius: 50%; width: 10px; height: 10px; display: inline-block;"></span> Well - USGS	<span style="background-color: lightblue; width: 20px; height: 10px; display: inline-block;"></span> 1% Annual Flood Chance
<span style="background-color: lightcoral; width: 20px; height: 10px; display: inline-block;"></span> High Karst	<span style="background-color: blue; width: 20px; height: 10px; display: inline-block;"></span> Lake/Freshwater Pond
<span style="border-bottom: 1px solid brown; width: 20px; display: inline-block;"></span> Potash Mine Workings	<span style="background-color: green; width: 20px; height: 10px; display: inline-block;"></span> Emergent/Forested Wetlands
	<span style="background-color: cyan; width: 20px; height: 10px; display: inline-block;"></span> Riverine

**Figure 2**  
 Aerial Map  
 Mewbourne Oil Company  
 Hoss 11 SWD #1  
 GPS: 32.151564, -104.050164  
 Eddy County

**eTECH**  
Environmental & Safety Solutions, Inc.

Drafted: mag    Checked: jwl    Date: 8/25/20

## **Figure 3**

### **Site and Sample Location Map**



Spill Area:  
129,486 sq. ft.

**Legend:**

- Sample Point
- Affected Area
- Buried Pipeline
- Test Trench

**Figure 3**  
 Site and Sample Location Map  
 Mewbourne Oil Company  
 Hoss 11 SWD #1  
 GPS: 32.151564, -104.050164  
 Eddy County


  
**Environmental & Safety Solutions, Inc.**

Drafted: lc      Checked: jwl      Date: 8/26/20

**Table 1**  
**Concentrations of BTEX, TPH, and/or Chloride in Soil**

**TABLE 1**  
**CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL**  
**Mewbourne Oil Company**  
**Hoss 11 SWD #1**  
**NMOCD Ref. #: pending**

NMOCD Closure Criteria				10	50	-	-	1000	-	2500	10000
NMOCD Reclamation Standard				10	50	-	-	-	-	100	600
Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/kg)	GRO + DRO C <sub>6</sub> -C <sub>28</sub> (mg/kg)	ORO C <sub>28</sub> -C <sub>36</sub> (mg/kg)	TPH C <sub>6</sub> -C <sub>36</sub> (mg/kg)	Chloride (mg/kg)
EH1 @ Surf	7/15/2020	Surf	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
EH1 @ 1'	7/15/2020	1'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
EH2 @ Surf	7/15/2020	Surf	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
EH2 @ 1'	7/15/2020	1'	In-Situ	ND	ND	ND	ND	ND	ND	ND	220
EH3 @ Surf	7/15/2020	Surf	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
EH3 @ 1'	7/15/2020	1'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
NH1B @ Surf	7/15/2020	Surf	In-Situ	ND	ND	ND	ND	ND	ND	ND	430
NH1A @ 1'	7/15/2020	1'	In-Situ	ND	ND	ND	ND	ND	ND	ND	180
NH2 @ Surf	7/15/2020	Surf	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
NH2 @ 1'	7/15/2020	1'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
WH1 @ Surf	7/15/2020	Surf	In-Situ	ND	ND	ND	ND	ND	ND	ND	64.0
WH1 @ 1'	7/15/2020	1'	In-Situ	ND	ND	ND	ND	ND	ND	ND	100
WH2 @ Surf	7/15/2020	Surf	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
WH2 @ 1'	7/15/2020	1'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
SH1 @ Surf	7/15/2020	Surf	In-Situ	ND	ND	ND	ND	ND	ND	ND	62.0
SH1 @ 1'	7/15/2020	1'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
SH2 @ Surf	7/15/2020	Surf	In-Situ	ND	ND	ND	ND	ND	ND	ND	340
SH2 @ 1'	7/15/2020	1'	In-Situ	ND	ND	ND	ND	ND	ND	ND	260
SH3D @ Surf	7/15/2020	Surf	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
SH3D @ 1'	7/15/2020	1'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
SP1 @ Surf	7/16/2020	Surf	In-Situ	ND	ND	ND	13.0	13.0	ND	13.0	<b>16,000</b>
SP1 @ 1'	7/16/2020	1'	In-Situ	ND	ND	ND	ND	ND	ND	ND	210
SP2 @ Surf	7/16/2020	Surf	In-Situ	ND	ND	ND	ND	ND	ND	ND	9,600
SP2 @ 2'	7/16/2020	2'	In-Situ	ND	ND	ND	ND	ND	ND	ND	290
SP3 @ Surf	7/16/2020	Surf	In-Situ	ND	ND	ND	ND	ND	ND	ND	<b>14,000</b>
SP3 @ 1'	7/16/2020	1'	In-Situ	ND	ND	ND	ND	ND	ND	ND	350
SP4 @ Surf	7/16/2020	Surf	In-Situ	ND	ND	ND	14.0	14.0	ND	14.0	<b>25,000</b>
SP4 @ 4'	7/16/2020	4'	In-Situ	ND	ND	ND	ND	ND	ND	ND	330
SP5 @ Surf	7/16/2020	Surf	In-Situ	ND	ND	ND	ND	ND	ND	ND	<b>20,000</b>
SP5 @ 1'	7/16/2020	1'	In-Situ	ND	ND	ND	ND	ND	ND	ND	330
SP6 @ Surf	7/16/2020	Surf	In-Situ	ND	ND	ND	ND	ND	ND	ND	<b>16,000</b>
SP6 @ 1'	7/16/2020	1'	In-Situ	ND	ND	ND	ND	ND	ND	ND	210
SP7 @ Surf	7/16/2020	Surf	In-Situ	ND	ND	ND	12.0	12.0	ND	12.0	<b>32,000</b>
SP7 @ 2'	7/16/2020	2'	In-Situ	ND	ND	ND	ND	ND	ND	ND	280
SP8 @ Surf	7/15/2020	Surf	In-Situ	ND	ND	ND	100	100	ND	100	<b>16,000</b>
SP8 @ 12'	7/17/2020	12'	In-Situ	ND	ND	ND	ND	ND	ND	ND	800
SP9 @ Surf	7/15/2020	Surf	In-Situ	ND	ND	ND	ND	ND	ND	ND	<b>14,000</b>
SP9 @ 6'	7/16/2020	6'	In-Situ	ND	ND	ND	ND	ND	ND	ND	270
SP10 @ Surf	7/16/2020	Surf	In-Situ	ND	ND	13.0	63.0	76.0	ND	76.0	<b>59,000</b>
SP10 @ 2'	7/16/2020	2'	In-Situ	ND	ND	ND	ND	ND	ND	ND	150

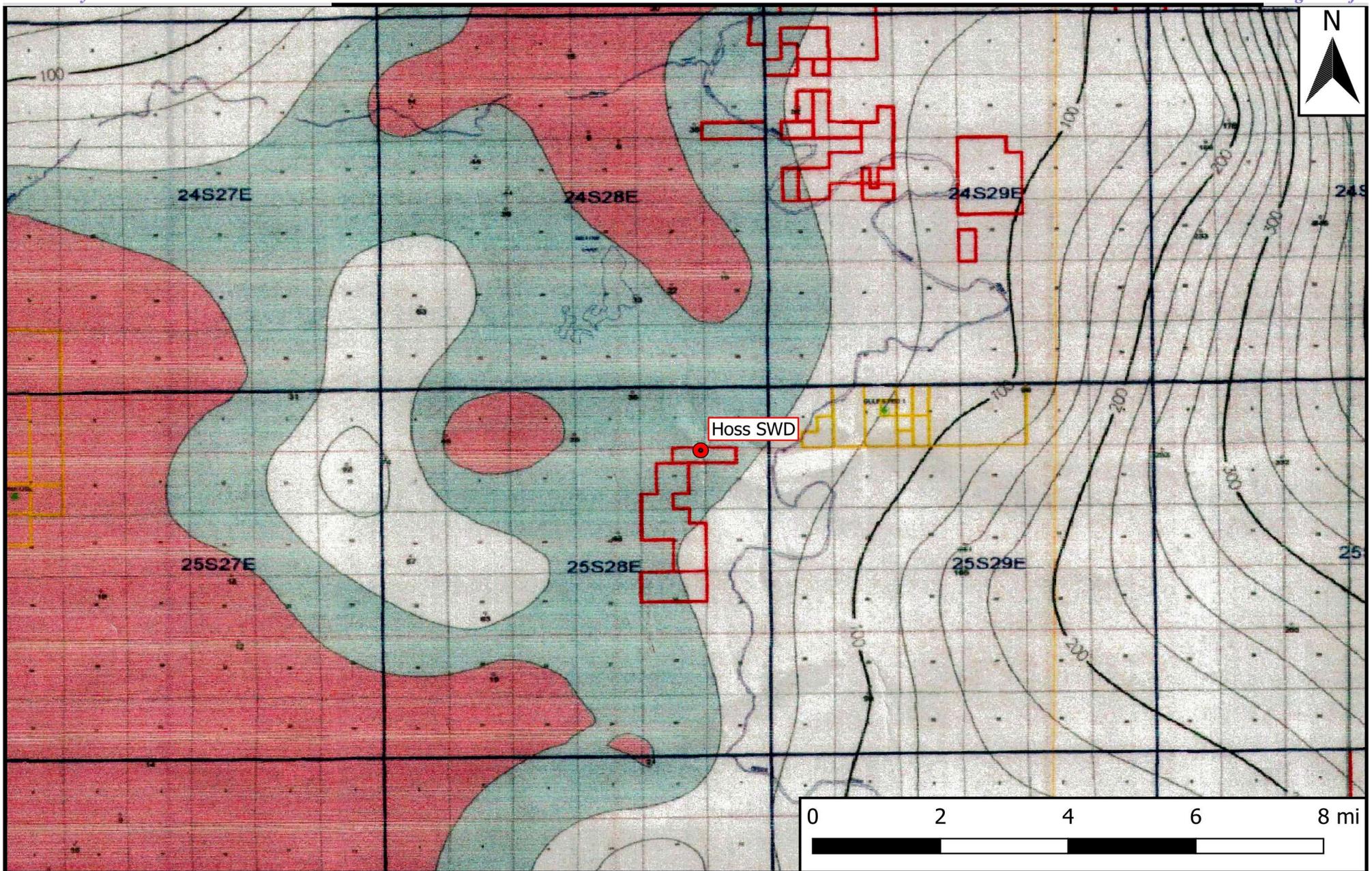
## NOTES:

- = Sample not analyzed for that constituent.

Bold text denotes a concentration that exceeds the NMOCD Closure Criteria

# Appendix A

## Depth to Groundwater Information

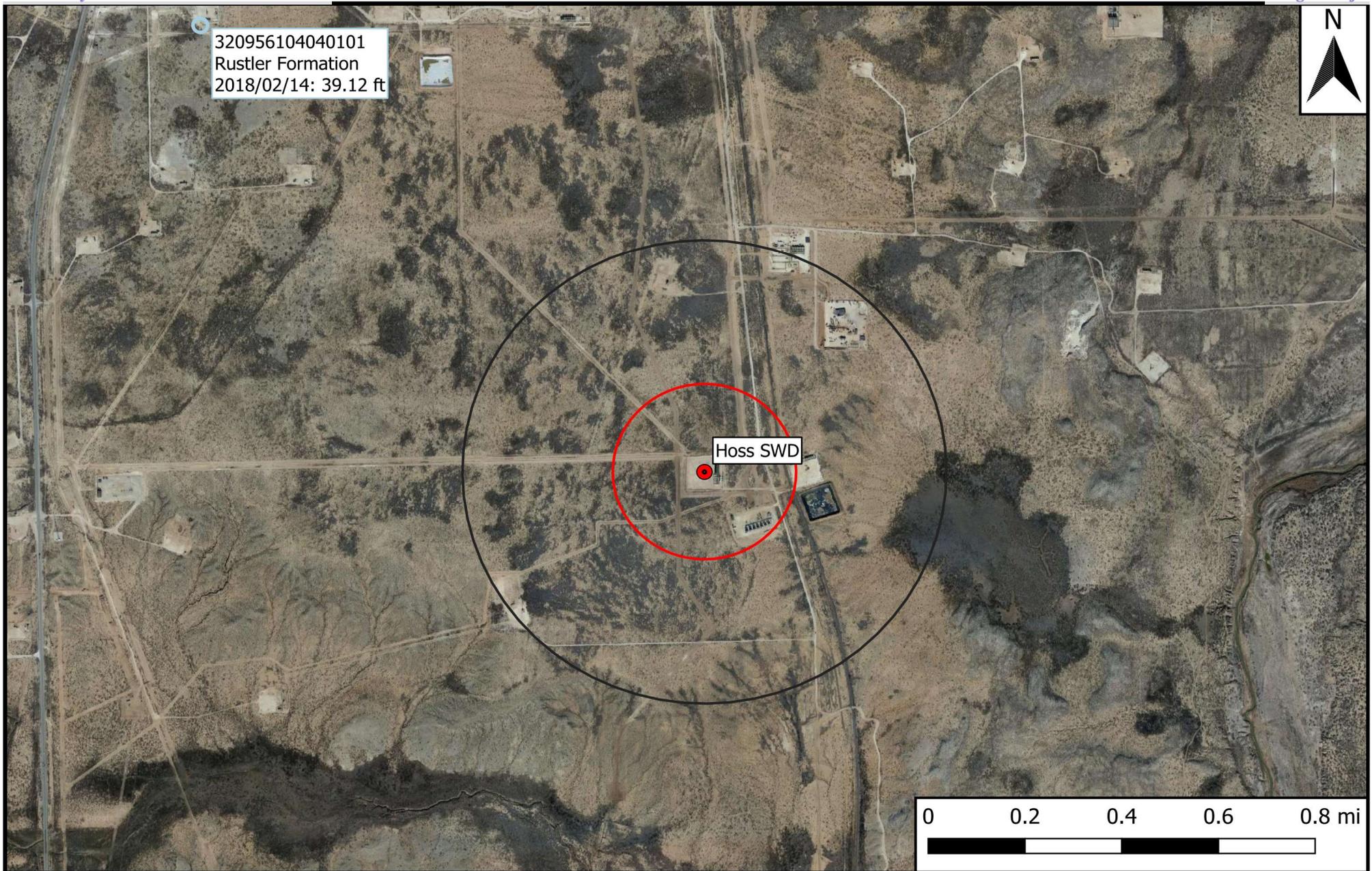


Legend  
 ● Site Location

**Figure 4**  
 Inferred Depth to Groundwater Trend Map  
 Mewbourne Oil Company  
 Hoss SWD  
 GPS: 32.151564, -104.050164  
 Eddy County



Drafted: mag    Checked: jwl    Date: 8/4/20



- Legend
- Site Location
  - Well - USGS
  - 0.5 Mi Radius
  - 1000 Ft Radius

**Figure 5**  
 USGS Well Proximity Map  
 Mewbourne Oil Company  
 Hoss SWD  
 GPS: 32.151564, -104.050164  
 Eddy County



Drafted: mag    Checked: jwl    Date: 8/4/20



# 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 Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
<a href="#">C_01880</a>	C	ED	3	3	2	06	25S	29E	592161	3558605*	2767	85	40	45	

Average Depth to Water: **40 feet**  
 Minimum Depth: **40 feet**  
 Maximum Depth: **40 feet**

**Record Count:** 1

**UTMNAD83 Radius Search (in meters):**

**Easting (X):** 589570.98      **Northing (Y):** 3557630.74      **Radius:** 3220

\*UTM location was derived from PLSS - see Help

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.

8/4/20 11:16 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER



# New Mexico Office of the State Engineer

## Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)  
 (quarters are smallest to largest) (NAD83 UTM in meters)

<b>Well Tag</b>	<b>POD Number</b>	<b>Q64</b>	<b>Q16</b>	<b>Q4</b>	<b>Sec</b>	<b>Tws</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>
C	01880	3	3	2	06	25S	29E	592161	3558605*

<b>Driller License:</b> 46	<b>Driller Company:</b> ABBOTT BROTHERS COMPANY		
<b>Driller Name:</b> MURRELL ABBOTT			
<b>Drill Start Date:</b> 10/29/1979	<b>Drill Finish Date:</b> 10/30/1979	<b>Plug Date:</b>	
<b>Log File Date:</b> 11/05/1979	<b>PCW Rcv Date:</b>	<b>Source:</b> Shallow	
<b>Pump Type:</b>	<b>Pipe Discharge Size:</b>	<b>Estimated Yield:</b>	
<b>Casing Size:</b> 7.00	<b>Depth Well:</b> 85 feet	<b>Depth Water:</b> 40 feet	

Water Bearing Stratifications:	Top	Bottom	Description
	40	85	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	40	60

\*UTM location was derived from PLSS - see Help

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.

8/4/20 11:16 AM

POINT OF DIVERSION SUMMARY



National Water Information System: Web Interface

USGS Water Resources

Data Category:  Geographic Area:

Click to hide News 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 =

- 320956104040101

Minimum number of levels = 1

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

USGS 320956104040101 25S.28E.03.22231

Eddy County, New Mexico

Latitude 32°09'56.2", Longitude 104°04'04.1" NAD83

Land-surface elevation 2,990.20 feet above NGVD29

This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

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
1948-12-06		D	32.27			2		U			A
1978-01-03		D	32.97			2		U			A
1983-02-01		D	25.87			2		U			A
1987-10-14		D	29.27			2		U			A
1988-03-22		D	29.93			2		U			A
1992-11-04		D	35.03			2		S			A
1998-01-23		D	33.84			2		S			A
2003-01-27		D	32.08			2		S	USGS		A
2013-01-10	14:20 MST	m	33.56			2		S	USGS		A
2018-02-14	09:56 MST	m	39.12			2		V	USGS		A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level date-time accuracy	m	Date is accurate to the Minute
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	S	Steel-tape measurement.
Method of measurement	U	Unknown method.
Method of measurement	V	Calibrated electric-tape measurement.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement	A	Reported by another government agency (do not use "A" if reported by owner, use "O").
Source of measurement	R	Reported by person other than the owner, driller, or another government agency.

Section	Code	Description
Source of measurement	S	Measured by personnel of reporting agency.
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

**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: 2020-08-04 13:14:06 EDT

0.29 0.25 nadww02

## **Appendix B**

### **Field Data and Soil Profile Logs**



### Sample Log

Date: 7/15/20

Project: Hoss SWD  
 Project Number: 12712 Latitude: 32.151564 Longitude: -104.050164

Sample ID	PID/Odor	Chloride Conc.	GPS
SH3 @ Surf.		1.4 112	
SH3 @ 1'		1.9 160	
SH3 @ Surf.		2.6 276	
SH3 @ 1'		1.6 732	
SP8 @ Surf.		> 2584 8776 15528	
SP8 @ 1'		72584 8776	
SP9 @ Surf.		12680 796	
SP9 @ 1'		796	
SP8 @ 2'		72584	
SP8 @ 3'		> 2584	
SP8 @ 4'		> 2584	
SP9 @ 2'		1336	
SH3A @ Surf.		432	
SH3A @ 1'		796	
SP8 @ 5'		2584 5768	
SH3B @ Surf		520	
SH3B @ 1'		860	
SP9 @ 3'		348	
SP9 @ 4'		1076	
SP9 @ 5'		676	
SH3C @ Surf.		244	
SH3C @ 1'		796	
SH2 @ Surf		476	
SH2 @ 1'		308	
SH1 @ Surf		184	
SH1 @ 1'		184	
WH2 @ Surf		212	
WH2 @ 1'		212	
WH1 @ Surf		160	
WH1 @ 1'		244	
NH1 @ Surf.		2212	
NH1 @ 1'		676	
EH2 @ Surf		< 112	
EH2 @ 1'		312	
EH1 @ Surf		< 112	
EH1 @ 1'		132	

Sample Point = SP #1 @ ## etc      Test Trench = TT #1 @ ##      Resamples = SP #1 @ 5b or SW #1b  
 Floor = FL #1 etc      Refusal = SP #1 @ 4'-R      Stockpile = Stockpile #1  
 Sidewall = SW #1 etc      Soil Intended to be Deferred = SP #1 @ 4' In-Situ      GPS Sample Points, Center of Comp Areas



# Sample Log

Date: 7/15/20

Project: Hoss SWD  
 Project Number: 12712 Latitude: 32.151564 Longitude: -104.050164

Sample ID	PID/Odor	Chloride Conc.	GPS
NH2 @ surf		112	
NH2 @ 1'		160	
NH1A @ surf		620	
NH1A @ 1'		344	
NH1B @ surf		520	
SH3D @ surf		312	
SH3D @ 1'		184	
7/16/20			
SP8 @ 6'		1908	
SP8 @ 7'		1776	
SP9 @ 6'		312	
SP9 @ 7'		312	
SP7 @ surf		72584 24756	
SP7 @ 1'		1000	
SP7 @ 2'		520	
SP7 @ 3'		520	
SP10 @ surf		72584 24756	
SP10 @ 1'		860	
SP10 @ 2'		244	
SP4 @ surf		72584 24756	
SP4 @ 1'		72584	
SP4 @ 2'		72584	
SP5 @ surf		19368	SP1 @ surf 15204
SP5 @ 1'		520	SP1 @ 1' 348
SP5 @ 2'		520	SP1 @ 2' 348
SP4 @ 3'		1432	
SP4 @ 4'		520	
SP6 @ surf		15528	
SP6 @ 1'		476	
SP6 @ 2'		476	
SP3 @ surf		12680	
SP3 @ 1'		348	
SP3 @ 2'		476	
SP2 @ surf		11520	
SP2 @ 1'		2388	
SP2 @ 2'		432	

Sample Point = SP #1 @ ## etc      Test Trench = TT #1 @ ##      Resamples = SP #1 @ 5b or SW #1b  
 Floor = FL #1 etc      Refusal = SP #1 @ 4'-R      Stockpile = Stockpile #1  
 Sidewall = SW #1 etc      Soil Intended to be Deferred = SP #1 @ 4' In-Situ      GPS Sample Points, Center of Comp Areas

continued samples on back

7-17-20

Sample ID	Odor	Chloride Conc.
SP 8 @ 8'	Q	928
SP 8 @ 9'	Q	744
SP 8 @ 10'	Q	536
SP 8 @ 11'	Q	688
SP 8 @ 12'	Q	400



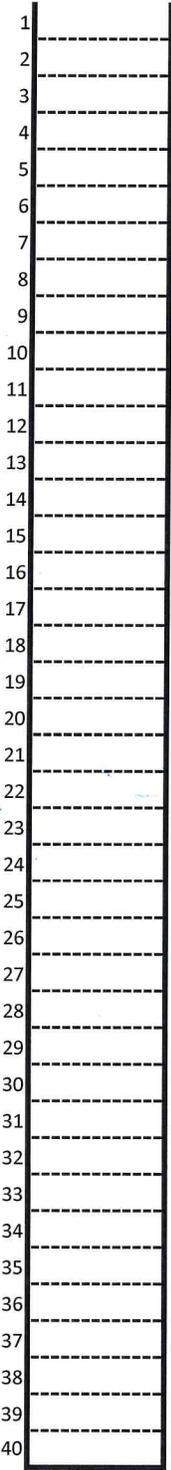
# Soil Profile

Date: 7-22-20

Project: Hoss 11 SWD #1

Project Number: 12712 Latitude: 32.151564 Longitude: -104.050164

Depth (ft. bgs)



Description

0-6" - caliche  
 6" - 4' - Red Bed clay - gypsum  
 4' - 14' - Sand - Clay - gypsum mix

### Initial Release Assessment Form

Date: 7-15-20 0

Project: Hoss 11 SWD #1

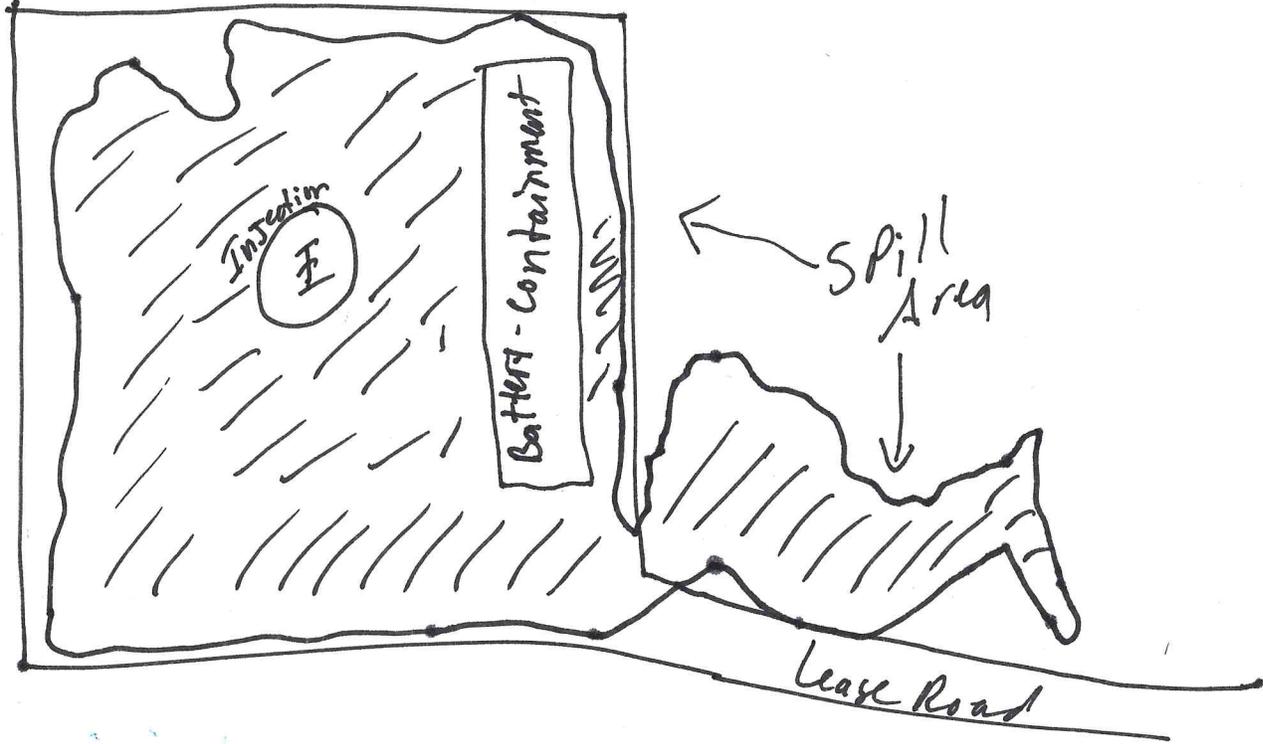
Clean Up Level: \_\_\_\_\_

Project Number: 12712

Latitude: 32.151564

Longitude: -104.050164

Site Diagram



Notes:

-----

-----

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-----

~Length: 550'      ~Width: 400'      ~Area: 127,000 sq. ft      ~Depth: \_\_\_\_\_

	Yes	No
3-4 Representative Pictures of the Affected Area including sample locations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Necessary Samples Field Screened and on Ice?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample and Field Screen Data Entered on Sample Log?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Was horizontal and vertical delineation achieved?	<input type="checkbox"/>	<input type="checkbox"/>

# **Appendix C**

## **Laboratory Analytical Reports**

**Analytical Report**

Lab Order **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** EH1 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-001

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 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	7/22/2020 4:06:03 AM	53881
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/22/2020 2:23:52 AM	53809
Surr: BFB	91.2	70-130		%Rec	1	7/22/2020 2:23:52 AM	53809
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/22/2020 11:47:58 PM	53860
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/22/2020 11:47:58 PM	53860
Surr: DNOP	59.9	55.1-146		%Rec	1	7/22/2020 11:47:58 PM	53860
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	7/22/2020 2:23:52 AM	53809
Toluene	ND	0.050		mg/Kg	1	7/22/2020 2:23:52 AM	53809
Ethylbenzene	ND	0.050		mg/Kg	1	7/22/2020 2:23:52 AM	53809
Xylenes, Total	ND	0.099		mg/Kg	1	7/22/2020 2:23:52 AM	53809
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	7/22/2020 2:23:52 AM	53809
Surr: 4-Bromofluorobenzene	88.1	70-130		%Rec	1	7/22/2020 2:23:52 AM	53809
Surr: Dibromofluoromethane	109	70-130		%Rec	1	7/22/2020 2:23:52 AM	53809
Surr: Toluene-d8	100	70-130		%Rec	1	7/22/2020 2:23:52 AM	53809

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** EH1 @1'

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-002

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 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	7/22/2020 4:18:27 AM	53881
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/22/2020 2:52:19 AM	53809
Surr: BFB	97.6	70-130		%Rec	1	7/22/2020 2:52:19 AM	53809
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/22/2020 11:58:13 PM	53860
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/22/2020 11:58:13 PM	53860
Surr: DNOP	76.2	55.1-146		%Rec	1	7/22/2020 11:58:13 PM	53860
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	7/22/2020 2:52:19 AM	53809
Toluene	ND	0.049		mg/Kg	1	7/22/2020 2:52:19 AM	53809
Ethylbenzene	ND	0.049		mg/Kg	1	7/22/2020 2:52:19 AM	53809
Xylenes, Total	ND	0.098		mg/Kg	1	7/22/2020 2:52:19 AM	53809
Surr: 1,2-Dichloroethane-d4	112	70-130		%Rec	1	7/22/2020 2:52:19 AM	53809
Surr: 4-Bromofluorobenzene	90.7	70-130		%Rec	1	7/22/2020 2:52:19 AM	53809
Surr: Dibromofluoromethane	108	70-130		%Rec	1	7/22/2020 2:52:19 AM	53809
Surr: Toluene-d8	101	70-130		%Rec	1	7/22/2020 2:52:19 AM	53809

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 2007964

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: EH2 @Surf

Project: Hoss SWD

Collection Date: 7/15/2020

Lab ID: 2007964-003

Matrix: SOIL

Received Date: 7/18/2020 11:05:00 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	7/22/2020 4:30:51 AM	53881
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	7/22/2020 3:20:57 AM	53809
Surr: BFB	93.2	70-130		%Rec	1	7/22/2020 3:20:57 AM	53809
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/23/2020 12:08:25 AM	53860
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/23/2020 12:08:25 AM	53860
Surr: DNOP	81.9	55.1-146		%Rec	1	7/23/2020 12:08:25 AM	53860
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.023		mg/Kg	1	7/22/2020 3:20:57 AM	53809
Toluene	ND	0.046		mg/Kg	1	7/22/2020 3:20:57 AM	53809
Ethylbenzene	ND	0.046		mg/Kg	1	7/22/2020 3:20:57 AM	53809
Xylenes, Total	ND	0.092		mg/Kg	1	7/22/2020 3:20:57 AM	53809
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	7/22/2020 3:20:57 AM	53809
Surr: 4-Bromofluorobenzene	89.6	70-130		%Rec	1	7/22/2020 3:20:57 AM	53809
Surr: Dibromofluoromethane	106	70-130		%Rec	1	7/22/2020 3:20:57 AM	53809
Surr: Toluene-d8	97.6	70-130		%Rec	1	7/22/2020 3:20:57 AM	53809

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 2007964

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: EH2 @1'

Project: Hoss SWD

Collection Date: 7/15/2020

Lab ID: 2007964-004

Matrix: SOIL

Received Date: 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	220	60		mg/Kg	20	7/22/2020 4:43:15 AM	53881
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/22/2020 3:49:28 AM	53809
Surr: BFB	96.0	70-130		%Rec	1	7/22/2020 3:49:28 AM	53809
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/23/2020 12:18:38 AM	53860
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/23/2020 12:18:38 AM	53860
Surr: DNOP	91.9	55.1-146		%Rec	1	7/23/2020 12:18:38 AM	53860
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	7/22/2020 3:49:28 AM	53809
Toluene	ND	0.047		mg/Kg	1	7/22/2020 3:49:28 AM	53809
Ethylbenzene	ND	0.047		mg/Kg	1	7/22/2020 3:49:28 AM	53809
Xylenes, Total	ND	0.095		mg/Kg	1	7/22/2020 3:49:28 AM	53809
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	7/22/2020 3:49:28 AM	53809
Surr: 4-Bromofluorobenzene	90.9	70-130		%Rec	1	7/22/2020 3:49:28 AM	53809
Surr: Dibromofluoromethane	110	70-130		%Rec	1	7/22/2020 3:49:28 AM	53809
Surr: Toluene-d8	97.0	70-130		%Rec	1	7/22/2020 3:49:28 AM	53809

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** EH3 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-005

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 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	7/22/2020 5:20:29 AM	53881
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/22/2020 4:17:57 AM	53809
Surr: BFB	98.2	70-130		%Rec	1	7/22/2020 4:17:57 AM	53809
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/23/2020 12:28:50 AM	53860
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/23/2020 12:28:50 AM	53860
Surr: DNOP	87.5	55.1-146		%Rec	1	7/23/2020 12:28:50 AM	53860
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.023		mg/Kg	1	7/22/2020 4:17:57 AM	53809
Toluene	ND	0.047		mg/Kg	1	7/22/2020 4:17:57 AM	53809
Ethylbenzene	ND	0.047		mg/Kg	1	7/22/2020 4:17:57 AM	53809
Xylenes, Total	ND	0.094		mg/Kg	1	7/22/2020 4:17:57 AM	53809
Surr: 1,2-Dichloroethane-d4	99.4	70-130		%Rec	1	7/22/2020 4:17:57 AM	53809
Surr: 4-Bromofluorobenzene	90.8	70-130		%Rec	1	7/22/2020 4:17:57 AM	53809
Surr: Dibromofluoromethane	111	70-130		%Rec	1	7/22/2020 4:17:57 AM	53809
Surr: Toluene-d8	101	70-130		%Rec	1	7/22/2020 4:17:57 AM	53809

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 2007964

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: EH3 @1'

Project: Hoss SWD

Collection Date: 7/15/2020

Lab ID: 2007964-006

Matrix: SOIL

Received Date: 7/18/2020 11:05:00 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	7/22/2020 5:32:54 AM	53881
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/22/2020 4:46:31 AM	53809
Surr: BFB	96.3	70-130		%Rec	1	7/22/2020 4:46:31 AM	53809
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/23/2020 12:39:00 AM	53860
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/23/2020 12:39:00 AM	53860
Surr: DNOP	140	55.1-146		%Rec	1	7/23/2020 12:39:00 AM	53860
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	7/22/2020 4:46:31 AM	53809
Toluene	ND	0.049		mg/Kg	1	7/22/2020 4:46:31 AM	53809
Ethylbenzene	ND	0.049		mg/Kg	1	7/22/2020 4:46:31 AM	53809
Xylenes, Total	ND	0.098		mg/Kg	1	7/22/2020 4:46:31 AM	53809
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	7/22/2020 4:46:31 AM	53809
Surr: 4-Bromofluorobenzene	94.8	70-130		%Rec	1	7/22/2020 4:46:31 AM	53809
Surr: Dibromofluoromethane	111	70-130		%Rec	1	7/22/2020 4:46:31 AM	53809
Surr: Toluene-d8	100	70-130		%Rec	1	7/22/2020 4:46:31 AM	53809

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** NH1B @ Surt

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-007

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	430	60		mg/Kg	20	7/22/2020 5:45:19 AM	53881
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/22/2020 5:15:08 AM	53809
Surr: BFB	99.6	70-130		%Rec	1	7/22/2020 5:15:08 AM	53809
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/23/2020 12:49:16 AM	53860
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/23/2020 12:49:16 AM	53860
Surr: DNOP	69.2	55.1-146		%Rec	1	7/23/2020 12:49:16 AM	53860
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	7/22/2020 5:15:08 AM	53809
Toluene	ND	0.047		mg/Kg	1	7/22/2020 5:15:08 AM	53809
Ethylbenzene	ND	0.047		mg/Kg	1	7/22/2020 5:15:08 AM	53809
Xylenes, Total	ND	0.095		mg/Kg	1	7/22/2020 5:15:08 AM	53809
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	7/22/2020 5:15:08 AM	53809
Surr: 4-Bromofluorobenzene	89.8	70-130		%Rec	1	7/22/2020 5:15:08 AM	53809
Surr: Dibromofluoromethane	110	70-130		%Rec	1	7/22/2020 5:15:08 AM	53809
Surr: Toluene-d8	105	70-130		%Rec	1	7/22/2020 5:15:08 AM	53809

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** NH1A @ 1'

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-008

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	180	60		mg/Kg	20	7/22/2020 12:56:03 PM	53890
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/22/2020 5:44:07 AM	53809
Surr: BFB	93.8	70-130		%Rec	1	7/22/2020 5:44:07 AM	53809
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/23/2020 12:59:26 AM	53860
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/23/2020 12:59:26 AM	53860
Surr: DNOP	85.9	55.1-146		%Rec	1	7/23/2020 12:59:26 AM	53860
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	7/22/2020 5:44:07 AM	53809
Toluene	ND	0.050		mg/Kg	1	7/22/2020 5:44:07 AM	53809
Ethylbenzene	ND	0.050		mg/Kg	1	7/22/2020 5:44:07 AM	53809
Xylenes, Total	ND	0.10		mg/Kg	1	7/22/2020 5:44:07 AM	53809
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	7/22/2020 5:44:07 AM	53809
Surr: 4-Bromofluorobenzene	89.3	70-130		%Rec	1	7/22/2020 5:44:07 AM	53809
Surr: Dibromofluoromethane	114	70-130		%Rec	1	7/22/2020 5:44:07 AM	53809
Surr: Toluene-d8	97.2	70-130		%Rec	1	7/22/2020 5:44:07 AM	53809

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** NH2 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-009

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	7/22/2020 1:33:16 PM	53890
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/22/2020 6:12:38 AM	53809
Surr: BFB	97.9	70-130		%Rec	1	7/22/2020 6:12:38 AM	53809
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	7/23/2020 1:09:36 AM	53860
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	7/23/2020 1:09:36 AM	53860
Surr: DNOP	111	55.1-146		%Rec	1	7/23/2020 1:09:36 AM	53860
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	7/22/2020 6:12:38 AM	53809
Toluene	ND	0.049		mg/Kg	1	7/22/2020 6:12:38 AM	53809
Ethylbenzene	ND	0.049		mg/Kg	1	7/22/2020 6:12:38 AM	53809
Xylenes, Total	ND	0.097		mg/Kg	1	7/22/2020 6:12:38 AM	53809
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	7/22/2020 6:12:38 AM	53809
Surr: 4-Bromofluorobenzene	96.0	70-130		%Rec	1	7/22/2020 6:12:38 AM	53809
Surr: Dibromofluoromethane	108	70-130		%Rec	1	7/22/2020 6:12:38 AM	53809
Surr: Toluene-d8	101	70-130		%Rec	1	7/22/2020 6:12:38 AM	53809

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** NH2 @ 1'

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-010

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	7/22/2020 1:45:40 PM	53890
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/22/2020 6:41:08 AM	53809
Surr: BFB	92.9	70-130		%Rec	1	7/22/2020 6:41:08 AM	53809
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/23/2020 1:19:45 AM	53860
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/23/2020 1:19:45 AM	53860
Surr: DNOP	103	55.1-146		%Rec	1	7/23/2020 1:19:45 AM	53860
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	7/22/2020 6:41:08 AM	53809
Toluene	ND	0.048		mg/Kg	1	7/22/2020 6:41:08 AM	53809
Ethylbenzene	ND	0.048		mg/Kg	1	7/22/2020 6:41:08 AM	53809
Xylenes, Total	ND	0.095		mg/Kg	1	7/22/2020 6:41:08 AM	53809
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	7/22/2020 6:41:08 AM	53809
Surr: 4-Bromofluorobenzene	88.6	70-130		%Rec	1	7/22/2020 6:41:08 AM	53809
Surr: Dibromofluoromethane	112	70-130		%Rec	1	7/22/2020 6:41:08 AM	53809
Surr: Toluene-d8	101	70-130		%Rec	1	7/22/2020 6:41:08 AM	53809

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** WH1 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-011

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	64	60		mg/Kg	20	7/22/2020 1:58:05 PM	53890
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/22/2020 7:09:42 AM	53809
Surr: BFB	94.6	70-130		%Rec	1	7/22/2020 7:09:42 AM	53809
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/23/2020 2:20:35 AM	53861
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/23/2020 2:20:35 AM	53861
Surr: DNOP	76.4	55.1-146		%Rec	1	7/23/2020 2:20:35 AM	53861
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.023		mg/Kg	1	7/22/2020 7:09:42 AM	53809
Toluene	ND	0.047		mg/Kg	1	7/22/2020 7:09:42 AM	53809
Ethylbenzene	ND	0.047		mg/Kg	1	7/22/2020 7:09:42 AM	53809
Xylenes, Total	ND	0.093		mg/Kg	1	7/22/2020 7:09:42 AM	53809
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	7/22/2020 7:09:42 AM	53809
Surr: 4-Bromofluorobenzene	93.1	70-130		%Rec	1	7/22/2020 7:09:42 AM	53809
Surr: Dibromofluoromethane	110	70-130		%Rec	1	7/22/2020 7:09:42 AM	53809
Surr: Toluene-d8	101	70-130		%Rec	1	7/22/2020 7:09:42 AM	53809

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 2007964

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: WH1 @ 1'

Project: Hoss SWD

Collection Date: 7/15/2020

Lab ID: 2007964-012

Matrix: SOIL

Received Date: 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	100	60		mg/Kg	20	7/22/2020 2:10:30 PM	53890
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/22/2020 7:38:13 AM	53809
Surr: BFB	96.9	70-130		%Rec	1	7/22/2020 7:38:13 AM	53809
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	7/23/2020 2:51:04 AM	53861
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/23/2020 2:51:04 AM	53861
Surr: DNOP	91.8	55.1-146		%Rec	1	7/23/2020 2:51:04 AM	53861
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	7/22/2020 7:38:13 AM	53809
Toluene	ND	0.049		mg/Kg	1	7/22/2020 7:38:13 AM	53809
Ethylbenzene	ND	0.049		mg/Kg	1	7/22/2020 7:38:13 AM	53809
Xylenes, Total	ND	0.098		mg/Kg	1	7/22/2020 7:38:13 AM	53809
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	7/22/2020 7:38:13 AM	53809
Surr: 4-Bromofluorobenzene	92.5	70-130		%Rec	1	7/22/2020 7:38:13 AM	53809
Surr: Dibromofluoromethane	116	70-130		%Rec	1	7/22/2020 7:38:13 AM	53809
Surr: Toluene-d8	97.2	70-130		%Rec	1	7/22/2020 7:38:13 AM	53809

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** WH2 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-013

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	7/22/2020 2:22:55 PM	53890
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/22/2020 8:06:54 AM	53809
Surr: BFB	99.0	70-130		%Rec	1	7/22/2020 8:06:54 AM	53809
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/23/2020 3:01:16 AM	53861
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/23/2020 3:01:16 AM	53861
Surr: DNOP	74.6	55.1-146		%Rec	1	7/23/2020 3:01:16 AM	53861
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	7/22/2020 8:06:54 AM	53809
Toluene	ND	0.049		mg/Kg	1	7/22/2020 8:06:54 AM	53809
Ethylbenzene	ND	0.049		mg/Kg	1	7/22/2020 8:06:54 AM	53809
Xylenes, Total	ND	0.098		mg/Kg	1	7/22/2020 8:06:54 AM	53809
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	7/22/2020 8:06:54 AM	53809
Surr: 4-Bromofluorobenzene	96.5	70-130		%Rec	1	7/22/2020 8:06:54 AM	53809
Surr: Dibromofluoromethane	111	70-130		%Rec	1	7/22/2020 8:06:54 AM	53809
Surr: Toluene-d8	95.7	70-130		%Rec	1	7/22/2020 8:06:54 AM	53809

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 2007964

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: WH2 @1'

Project: Hoss SWD

Collection Date: 7/15/2020

Lab ID: 2007964-014

Matrix: SOIL

Received Date: 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	7/22/2020 2:35:19 PM	53890
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/22/2020 8:35:29 AM	53809
Surr: BFB	92.5	70-130		%Rec	1	7/22/2020 8:35:29 AM	53809
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	7/23/2020 3:11:29 AM	53861
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/23/2020 3:11:29 AM	53861
Surr: DNOP	88.2	55.1-146		%Rec	1	7/23/2020 3:11:29 AM	53861
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	7/22/2020 8:35:29 AM	53809
Toluene	ND	0.049		mg/Kg	1	7/22/2020 8:35:29 AM	53809
Ethylbenzene	ND	0.049		mg/Kg	1	7/22/2020 8:35:29 AM	53809
Xylenes, Total	ND	0.098		mg/Kg	1	7/22/2020 8:35:29 AM	53809
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	7/22/2020 8:35:29 AM	53809
Surr: 4-Bromofluorobenzene	88.3	70-130		%Rec	1	7/22/2020 8:35:29 AM	53809
Surr: Dibromofluoromethane	105	70-130		%Rec	1	7/22/2020 8:35:29 AM	53809
Surr: Toluene-d8	101	70-130		%Rec	1	7/22/2020 8:35:29 AM	53809

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SH1 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-015

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	62	60		mg/Kg	20	7/22/2020 3:12:33 PM	53890
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/22/2020 9:03:59 AM	53809
Surr: BFB	98.8	70-130		%Rec	1	7/22/2020 9:03:59 AM	53809
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/23/2020 3:21:46 AM	53861
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/23/2020 3:21:46 AM	53861
Surr: DNOP	89.4	55.1-146		%Rec	1	7/23/2020 3:21:46 AM	53861
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>JMR</b>
Benzene	ND	0.023		mg/Kg	1	7/22/2020 9:03:59 AM	53809
Toluene	ND	0.047		mg/Kg	1	7/22/2020 9:03:59 AM	53809
Ethylbenzene	ND	0.047		mg/Kg	1	7/22/2020 9:03:59 AM	53809
Xylenes, Total	ND	0.094		mg/Kg	1	7/22/2020 9:03:59 AM	53809
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	7/22/2020 9:03:59 AM	53809
Surr: 4-Bromofluorobenzene	95.3	70-130		%Rec	1	7/22/2020 9:03:59 AM	53809
Surr: Dibromofluoromethane	106	70-130		%Rec	1	7/22/2020 9:03:59 AM	53809
Surr: Toluene-d8	98.3	70-130		%Rec	1	7/22/2020 9:03:59 AM	53809

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SH1 @ 1'

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-016

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	7/22/2020 3:24:58 PM	53890
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/23/2020 3:32:03 AM	53861
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/23/2020 3:32:03 AM	53861
Surr: DNOP	86.1	55.1-146		%Rec	1	7/23/2020 3:32:03 AM	53861
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/21/2020 1:14:35 PM	53810
Surr: BFB	97.0	66.6-105		%Rec	1	7/21/2020 1:14:35 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	7/20/2020 11:26:33 PM	53810
Toluene	ND	0.050		mg/Kg	1	7/20/2020 11:26:33 PM	53810
Ethylbenzene	ND	0.050		mg/Kg	1	7/20/2020 11:26:33 PM	53810
Xylenes, Total	ND	0.099		mg/Kg	1	7/20/2020 11:26:33 PM	53810
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/20/2020 11:26:33 PM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SH2 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-017

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	340	60		mg/Kg	20	7/22/2020 3:37:22 PM	53890
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/23/2020 3:42:20 AM	53861
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/23/2020 3:42:20 AM	53861
Surr: DNOP	105	55.1-146		%Rec	1	7/23/2020 3:42:20 AM	53861
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/21/2020 1:38:11 PM	53810
Surr: BFB	96.7	66.6-105		%Rec	1	7/21/2020 1:38:11 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	7/21/2020 12:36:53 AM	53810
Toluene	ND	0.049		mg/Kg	1	7/21/2020 12:36:53 AM	53810
Ethylbenzene	ND	0.049		mg/Kg	1	7/21/2020 12:36:53 AM	53810
Xylenes, Total	ND	0.098		mg/Kg	1	7/21/2020 12:36:53 AM	53810
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/21/2020 12:36:53 AM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SH2 @ 1'

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-018

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JMT</b>
Chloride	260	60		mg/Kg	20	7/22/2020 3:49:47 PM	53890
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/23/2020 3:52:36 AM	53861
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/23/2020 3:52:36 AM	53861
Surr: DNOP	108	55.1-146		%Rec	1	7/23/2020 3:52:36 AM	53861
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/21/2020 2:49:09 PM	53810
Surr: BFB	97.8	66.6-105		%Rec	1	7/21/2020 2:49:09 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	7/21/2020 1:47:13 AM	53810
Toluene	ND	0.048		mg/Kg	1	7/21/2020 1:47:13 AM	53810
Ethylbenzene	ND	0.048		mg/Kg	1	7/21/2020 1:47:13 AM	53810
Xylenes, Total	ND	0.096		mg/Kg	1	7/21/2020 1:47:13 AM	53810
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/21/2020 1:47:13 AM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SH3D @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-019

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 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	7/23/2020 11:20:06 AM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/23/2020 4:02:55 AM	53861
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/23/2020 4:02:55 AM	53861
Surr: DNOP	104	55.1-146		%Rec	1	7/23/2020 4:02:55 AM	53861
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/21/2020 3:12:49 PM	53810
Surr: BFB	97.7	66.6-105		%Rec	1	7/21/2020 3:12:49 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	7/21/2020 2:10:36 AM	53810
Toluene	ND	0.047		mg/Kg	1	7/21/2020 2:10:36 AM	53810
Ethylbenzene	ND	0.047		mg/Kg	1	7/21/2020 2:10:36 AM	53810
Xylenes, Total	ND	0.094		mg/Kg	1	7/21/2020 2:10:36 AM	53810
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/21/2020 2:10:36 AM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SH3D @ 1'

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-020

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 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	7/23/2020 11:57:09 AM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/23/2020 4:13:15 AM	53861
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/23/2020 4:13:15 AM	53861
Surr: DNOP	94.5	55.1-146		%Rec	1	7/23/2020 4:13:15 AM	53861
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/21/2020 3:36:30 PM	53810
Surr: BFB	100	66.6-105		%Rec	1	7/21/2020 3:36:30 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	7/21/2020 2:34:07 AM	53810
Toluene	ND	0.047		mg/Kg	1	7/21/2020 2:34:07 AM	53810
Ethylbenzene	ND	0.047		mg/Kg	1	7/21/2020 2:34:07 AM	53810
Xylenes, Total	ND	0.094		mg/Kg	1	7/21/2020 2:34:07 AM	53810
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/21/2020 2:34:07 AM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP1 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-021

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CAS</b>
Chloride	16000	600		mg/Kg	200	7/24/2020 11:16:13 PM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	13	9.5		mg/Kg	1	7/23/2020 2:24:07 PM	53861
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/23/2020 2:24:07 PM	53861
Surr: DNOP	95.2	55.1-146		%Rec	1	7/23/2020 2:24:07 PM	53861
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/21/2020 4:00:07 PM	53810
Surr: BFB	98.4	66.6-105		%Rec	1	7/21/2020 4:00:07 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	7/21/2020 2:57:40 AM	53810
Toluene	ND	0.048		mg/Kg	1	7/21/2020 2:57:40 AM	53810
Ethylbenzene	ND	0.048		mg/Kg	1	7/21/2020 2:57:40 AM	53810
Xylenes, Total	ND	0.097		mg/Kg	1	7/21/2020 2:57:40 AM	53810
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	7/21/2020 2:57:40 AM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP1 @ 1'

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-022

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	210	60		mg/Kg	20	7/23/2020 12:46:33 PM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/23/2020 4:34:08 AM	53861
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/23/2020 4:34:08 AM	53861
Surr: DNOP	122	55.1-146		%Rec	1	7/23/2020 4:34:08 AM	53861
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/21/2020 4:23:53 PM	53810
Surr: BFB	101	66.6-105		%Rec	1	7/21/2020 4:23:53 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	7/21/2020 3:21:13 AM	53810
Toluene	ND	0.050		mg/Kg	1	7/21/2020 3:21:13 AM	53810
Ethylbenzene	ND	0.050		mg/Kg	1	7/21/2020 3:21:13 AM	53810
Xylenes, Total	ND	0.099		mg/Kg	1	7/21/2020 3:21:13 AM	53810
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/21/2020 3:21:13 AM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP2 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-023

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CAS</b>
Chloride	9600	600		mg/Kg	200	7/24/2020 11:28:38 PM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/23/2020 4:44:28 AM	53861
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/23/2020 4:44:28 AM	53861
Surr: DNOP	101	55.1-146		%Rec	1	7/23/2020 4:44:28 AM	53861
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/21/2020 4:47:30 PM	53810
Surr: BFB	102	66.6-105		%Rec	1	7/21/2020 4:47:30 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	7/21/2020 4:47:30 PM	53810
Toluene	ND	0.049		mg/Kg	1	7/21/2020 4:47:30 PM	53810
Ethylbenzene	ND	0.049		mg/Kg	1	7/21/2020 4:47:30 PM	53810
Xylenes, Total	ND	0.099		mg/Kg	1	7/21/2020 4:47:30 PM	53810
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/21/2020 4:47:30 PM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP2 @ 2'

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-024

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 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	7/23/2020 1:11:15 PM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/23/2020 4:54:45 AM	53861
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/23/2020 4:54:45 AM	53861
Surr: DNOP	101	55.1-146		%Rec	1	7/23/2020 4:54:45 AM	53861
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/21/2020 5:11:03 PM	53810
Surr: BFB	97.7	66.6-105		%Rec	1	7/21/2020 5:11:03 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	7/21/2020 5:11:03 PM	53810
Toluene	ND	0.047		mg/Kg	1	7/21/2020 5:11:03 PM	53810
Ethylbenzene	ND	0.047		mg/Kg	1	7/21/2020 5:11:03 PM	53810
Xylenes, Total	ND	0.094		mg/Kg	1	7/21/2020 5:11:03 PM	53810
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/21/2020 5:11:03 PM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP3 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-025

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CAS</b>
Chloride	14000	600		mg/Kg	200	7/24/2020 11:41:03 PM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/23/2020 5:04:59 AM	53861
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/23/2020 5:04:59 AM	53861
Surr: DNOP	99.3	55.1-146		%Rec	1	7/23/2020 5:04:59 AM	53861
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	7/21/2020 5:34:40 PM	53810
Surr: BFB	96.6	66.6-105		%Rec	1	7/21/2020 5:34:40 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	7/21/2020 5:34:40 PM	53810
Toluene	ND	0.046		mg/Kg	1	7/21/2020 5:34:40 PM	53810
Ethylbenzene	ND	0.046		mg/Kg	1	7/21/2020 5:34:40 PM	53810
Xylenes, Total	ND	0.092		mg/Kg	1	7/21/2020 5:34:40 PM	53810
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/21/2020 5:34:40 PM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP3 @ 1'

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-026

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 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	7/23/2020 1:35:55 PM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/23/2020 5:15:11 AM	53861
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/23/2020 5:15:11 AM	53861
Surr: DNOP	107	55.1-146		%Rec	1	7/23/2020 5:15:11 AM	53861
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/21/2020 5:58:13 PM	53810
Surr: BFB	97.4	66.6-105		%Rec	1	7/21/2020 5:58:13 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	7/21/2020 5:58:13 PM	53810
Toluene	ND	0.050		mg/Kg	1	7/21/2020 5:58:13 PM	53810
Ethylbenzene	ND	0.050		mg/Kg	1	7/21/2020 5:58:13 PM	53810
Xylenes, Total	ND	0.099		mg/Kg	1	7/21/2020 5:58:13 PM	53810
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	7/21/2020 5:58:13 PM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP4 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-027

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CAS</b>
Chloride	25000	1500		mg/Kg	500	7/24/2020 11:53:28 PM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	14	9.9		mg/Kg	1	7/23/2020 2:48:14 PM	53861
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/23/2020 2:48:14 PM	53861
Surr: DNOP	104	55.1-146		%Rec	1	7/23/2020 2:48:14 PM	53861
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/21/2020 6:21:48 PM	53810
Surr: BFB	98.1	66.6-105		%Rec	1	7/21/2020 6:21:48 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	7/21/2020 6:21:48 PM	53810
Toluene	ND	0.049		mg/Kg	1	7/21/2020 6:21:48 PM	53810
Ethylbenzene	ND	0.049		mg/Kg	1	7/21/2020 6:21:48 PM	53810
Xylenes, Total	ND	0.099		mg/Kg	1	7/21/2020 6:21:48 PM	53810
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	7/21/2020 6:21:48 PM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP4 @ 4'

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-028

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	330	60		mg/Kg	20	7/23/2020 2:00:38 PM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	7/23/2020 5:35:32 AM	53861
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/23/2020 5:35:32 AM	53861
Surr: DNOP	136	55.1-146		%Rec	1	7/23/2020 5:35:32 AM	53861
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/21/2020 6:45:25 PM	53810
Surr: BFB	94.6	66.6-105		%Rec	1	7/21/2020 6:45:25 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	7/21/2020 6:45:25 PM	53810
Toluene	ND	0.048		mg/Kg	1	7/21/2020 6:45:25 PM	53810
Ethylbenzene	ND	0.048		mg/Kg	1	7/21/2020 6:45:25 PM	53810
Xylenes, Total	ND	0.095		mg/Kg	1	7/21/2020 6:45:25 PM	53810
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/21/2020 6:45:25 PM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP5 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-029

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CAS</b>
Chloride	20000	1500		mg/Kg	500	7/25/2020 12:05:53 AM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	7/23/2020 5:45:42 AM	53861
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/23/2020 5:45:42 AM	53861
Surr: DNOP	106	55.1-146		%Rec	1	7/23/2020 5:45:42 AM	53861
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/21/2020 7:08:57 PM	53810
Surr: BFB	107	66.6-105	S	%Rec	1	7/21/2020 7:08:57 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	7/21/2020 7:08:57 PM	53810
Toluene	ND	0.048		mg/Kg	1	7/21/2020 7:08:57 PM	53810
Ethylbenzene	ND	0.048		mg/Kg	1	7/21/2020 7:08:57 PM	53810
Xylenes, Total	ND	0.095		mg/Kg	1	7/21/2020 7:08:57 PM	53810
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/21/2020 7:08:57 PM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP5 @ 1'

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-030

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	330	60		mg/Kg	20	7/23/2020 2:25:19 PM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/23/2020 5:55:49 AM	53861
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/23/2020 5:55:49 AM	53861
Surr: DNOP	106	55.1-146		%Rec	1	7/23/2020 5:55:49 AM	53861
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	7/21/2020 7:32:25 PM	53810
Surr: BFB	95.2	66.6-105		%Rec	1	7/21/2020 7:32:25 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	7/21/2020 7:32:25 PM	53810
Toluene	ND	0.046		mg/Kg	1	7/21/2020 7:32:25 PM	53810
Ethylbenzene	ND	0.046		mg/Kg	1	7/21/2020 7:32:25 PM	53810
Xylenes, Total	ND	0.093		mg/Kg	1	7/21/2020 7:32:25 PM	53810
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/21/2020 7:32:25 PM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP6 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-031

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CAS</b>
Chloride	16000	590		mg/Kg	200	7/25/2020 12:18:17 AM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/22/2020 12:31:45 PM	53863
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/22/2020 12:31:45 PM	53863
Surr: DNOP	151	55.1-146	S	%Rec	1	7/22/2020 12:31:45 PM	53863
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/21/2020 7:55:54 PM	53810
Surr: BFB	94.6	66.6-105		%Rec	1	7/21/2020 7:55:54 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	7/21/2020 7:55:54 PM	53810
Toluene	ND	0.050		mg/Kg	1	7/21/2020 7:55:54 PM	53810
Ethylbenzene	ND	0.050		mg/Kg	1	7/21/2020 7:55:54 PM	53810
Xylenes, Total	ND	0.099		mg/Kg	1	7/21/2020 7:55:54 PM	53810
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/21/2020 7:55:54 PM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP6 @ 1'

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-032

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	210	60		mg/Kg	20	7/23/2020 3:14:43 PM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/22/2020 1:02:04 PM	53863
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/22/2020 1:02:04 PM	53863
Surr: DNOP	134	55.1-146		%Rec	1	7/22/2020 1:02:04 PM	53863
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/21/2020 8:19:21 PM	53810
Surr: BFB	97.6	66.6-105		%Rec	1	7/21/2020 8:19:21 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	7/21/2020 8:19:21 PM	53810
Toluene	ND	0.049		mg/Kg	1	7/21/2020 8:19:21 PM	53810
Ethylbenzene	ND	0.049		mg/Kg	1	7/21/2020 8:19:21 PM	53810
Xylenes, Total	ND	0.098		mg/Kg	1	7/21/2020 8:19:21 PM	53810
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/21/2020 8:19:21 PM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP7 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-033

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CAS</b>
Chloride	32000	1500		mg/Kg	500	7/25/2020 12:30:42 AM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	12	9.7		mg/Kg	1	7/22/2020 1:12:13 PM	53863
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/22/2020 1:12:13 PM	53863
Surr: DNOP	125	55.1-146		%Rec	1	7/22/2020 1:12:13 PM	53863
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/21/2020 9:29:38 PM	53810
Surr: BFB	96.4	66.6-105		%Rec	1	7/21/2020 9:29:38 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	7/21/2020 9:29:38 PM	53810
Toluene	ND	0.047		mg/Kg	1	7/21/2020 9:29:38 PM	53810
Ethylbenzene	ND	0.047		mg/Kg	1	7/21/2020 9:29:38 PM	53810
Xylenes, Total	ND	0.094		mg/Kg	1	7/21/2020 9:29:38 PM	53810
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/21/2020 9:29:38 PM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP7 @ 2'

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-034

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 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	7/23/2020 3:39:25 PM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/22/2020 1:22:35 PM	53863
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/22/2020 1:22:35 PM	53863
Surr: DNOP	166	55.1-146	S	%Rec	1	7/22/2020 1:22:35 PM	53863
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/21/2020 9:53:04 PM	53810
Surr: BFB	94.5	66.6-105		%Rec	1	7/21/2020 9:53:04 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	7/21/2020 9:53:04 PM	53810
Toluene	ND	0.049		mg/Kg	1	7/21/2020 9:53:04 PM	53810
Ethylbenzene	ND	0.049		mg/Kg	1	7/21/2020 9:53:04 PM	53810
Xylenes, Total	ND	0.099		mg/Kg	1	7/21/2020 9:53:04 PM	53810
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/21/2020 9:53:04 PM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP8 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-035

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CAS</b>
Chloride	16000	600		mg/Kg	200	7/25/2020 12:43:07 AM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	100	9.6		mg/Kg	1	7/22/2020 1:32:56 PM	53863
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/22/2020 1:32:56 PM	53863
Surr: DNOP	141	55.1-146		%Rec	1	7/22/2020 1:32:56 PM	53863
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/21/2020 10:16:30 PM	53810
Surr: BFB	94.9	66.6-105		%Rec	1	7/21/2020 10:16:30 PM	53810
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	7/21/2020 10:16:30 PM	53810
Toluene	ND	0.049		mg/Kg	1	7/21/2020 10:16:30 PM	53810
Ethylbenzene	ND	0.049		mg/Kg	1	7/21/2020 10:16:30 PM	53810
Xylenes, Total	ND	0.098		mg/Kg	1	7/21/2020 10:16:30 PM	53810
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	7/21/2020 10:16:30 PM	53810

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP8 @ 12'

**Project:** Hoss SWD

**Collection Date:** 7/17/2020

**Lab ID:** 2007964-036

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	800	60		mg/Kg	20	7/23/2020 4:04:07 PM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/22/2020 1:43:15 PM	53863
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/22/2020 1:43:15 PM	53863
Surr: DNOP	119	55.1-146		%Rec	1	7/22/2020 1:43:15 PM	53863
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/21/2020 10:40:07 PM	53815
Surr: BFB	92.9	66.6-105		%Rec	1	7/21/2020 10:40:07 PM	53815
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	7/21/2020 10:40:07 PM	53815
Toluene	ND	0.049		mg/Kg	1	7/21/2020 10:40:07 PM	53815
Ethylbenzene	ND	0.049		mg/Kg	1	7/21/2020 10:40:07 PM	53815
Xylenes, Total	ND	0.099		mg/Kg	1	7/21/2020 10:40:07 PM	53815
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	7/21/2020 10:40:07 PM	53815

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP9 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/15/2020

**Lab ID:** 2007964-037

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CAS</b>
Chloride	14000	600		mg/Kg	200	7/25/2020 12:55:31 AM	53915
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/22/2020 1:53:32 PM	53863
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/22/2020 1:53:32 PM	53863
Surr: DNOP	123	55.1-146		%Rec	1	7/22/2020 1:53:32 PM	53863
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/21/2020 11:50:27 PM	53815
Surr: BFB	96.1	66.6-105		%Rec	1	7/21/2020 11:50:27 PM	53815
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	7/21/2020 11:50:27 PM	53815
Toluene	ND	0.050		mg/Kg	1	7/21/2020 11:50:27 PM	53815
Ethylbenzene	ND	0.050		mg/Kg	1	7/21/2020 11:50:27 PM	53815
Xylenes, Total	ND	0.099		mg/Kg	1	7/21/2020 11:50:27 PM	53815
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/21/2020 11:50:27 PM	53815

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP9 @ 6'

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-038

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 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	7/23/2020 4:53:32 PM	53917
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/22/2020 2:03:48 PM	53863
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/22/2020 2:03:48 PM	53863
Surr: DNOP	163	55.1-146	S	%Rec	1	7/22/2020 2:03:48 PM	53863
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/22/2020 1:01:04 AM	53815
Surr: BFB	92.7	66.6-105		%Rec	1	7/22/2020 1:01:04 AM	53815
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	7/22/2020 1:01:04 AM	53815
Toluene	ND	0.049		mg/Kg	1	7/22/2020 1:01:04 AM	53815
Ethylbenzene	ND	0.049		mg/Kg	1	7/22/2020 1:01:04 AM	53815
Xylenes, Total	ND	0.099		mg/Kg	1	7/22/2020 1:01:04 AM	53815
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	7/22/2020 1:01:04 AM	53815

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP10 @ Surf

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-039

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CAS</b>
Chloride	59000	3000		mg/Kg	1E+	7/25/2020 1:07:56 AM	53917
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	63	9.9		mg/Kg	1	7/22/2020 2:14:03 PM	53863
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/22/2020 2:14:03 PM	53863
Surr: DNOP	121	55.1-146		%Rec	1	7/22/2020 2:14:03 PM	53863
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	13	5.0		mg/Kg	1	7/22/2020 1:24:42 AM	53815
Surr: BFB	152	66.6-105	S	%Rec	1	7/22/2020 1:24:42 AM	53815
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	7/22/2020 1:24:42 AM	53815
Toluene	ND	0.050		mg/Kg	1	7/22/2020 1:24:42 AM	53815
Ethylbenzene	ND	0.050		mg/Kg	1	7/22/2020 1:24:42 AM	53815
Xylenes, Total	ND	0.099		mg/Kg	1	7/22/2020 1:24:42 AM	53815
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/22/2020 1:24:42 AM	53815

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 **2007964**

Date Reported:

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP10 @ 2'

**Project:** Hoss SWD

**Collection Date:** 7/16/2020

**Lab ID:** 2007964-040

**Matrix:** SOIL

**Received Date:** 7/18/2020 11:05:00 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	7/23/2020 6:07:36 PM	53917
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/22/2020 2:24:15 PM	53863
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/22/2020 2:24:15 PM	53863
Surr: DNOP	139	55.1-146		%Rec	1	7/22/2020 2:24:15 PM	53863
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/22/2020 1:48:15 AM	53815
Surr: BFB	91.4	66.6-105		%Rec	1	7/22/2020 1:48:15 AM	53815
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	7/22/2020 1:48:15 AM	53815
Toluene	ND	0.050		mg/Kg	1	7/22/2020 1:48:15 AM	53815
Ethylbenzene	ND	0.050		mg/Kg	1	7/22/2020 1:48:15 AM	53815
Xylenes, Total	ND	0.10		mg/Kg	1	7/22/2020 1:48:15 AM	53815
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	7/22/2020 1:48:15 AM	53815

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

August 26, 2020

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

RE: Hoss SWD

OrderNo.: 2008988

Dear Robbie Runnels:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/19/2020 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 white background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**

Lab Order **2008988**

Date Reported: **8/26/2020**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Mewbourne Oil Company

**Client Sample ID:** SP8@13'

**Project:** Hoss SWD

**Collection Date:** 8/17/2020 9:30:00 AM

**Lab ID:** 2008988-001

**Matrix:** SOIL

**Received Date:** 8/19/2020 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CAS</b>
Chloride	830	60		mg/Kg	20	8/26/2020 2:21:14 AM	54676

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#: 2008988

26-Aug-20

**Client:** Mewbourne Oil Company

**Project:** Hoss SWD

Sample ID: <b>MB-54676</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54676</b>	RunNo: <b>71336</b>								
Prep Date: <b>8/25/2020</b>	Analysis Date: <b>8/25/2020</b>	SeqNo: <b>2490791</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

**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: 2008988 RcptNo: 1

Received By: Cheyenne Cason 8/19/2020 10:00:00 AM

Completed By: Juan Rojas 8/19/2020 10:18:59 AM

Reviewed By: SPA 8.19.20

Handwritten signature

Chain of Custody

- 1. Is Chain of Custody complete? Yes [checked] No [ ] Not Present [ ]
2. How was the sample delivered? Courier

Log In

- 3. Was an attempt made to cool the samples? Yes [checked] No [ ] NA [ ]
4. Were all samples received at a temperature of >0° C to 6.0°C Yes [checked] No [ ] NA [ ]
5. Sample(s) in proper container(s)? Yes [checked] No [ ]
6. Sufficient sample volume for indicated test(s)? Yes [checked] No [ ]
7. Are samples (except VOA and ONG) properly preserved? Yes [checked] No [ ]
8. Was preservative added to bottles? Yes [ ] No [checked] NA [ ]
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes [ ] No [ ] NA [checked]
10. Were any sample containers received broken? Yes [ ] No [checked]
11. Does paperwork match bottle labels? Yes [checked] No [ ]
12. Are matrices correctly identified on Chain of Custody? Yes [checked] No [ ]
13. Is it clear what analyses were requested? Yes [checked] No [ ]
14. Were all holding times able to be met? Yes [checked] No [ ]

# of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by: em 8/19/20

Special Handling (if applicable)

- 15. Was client notified of all discrepancies with this order? Yes [ ] No [ ] NA [checked]

Person Notified: [ ] Date [ ]
By Whom: [ ] Via: [ ] eMail [ ] Phone [ ] Fax [ ] In Person [ ]
Regarding: [ ]
Client Instructions: [ ]

16. Additional remarks:

17. Cooler Information

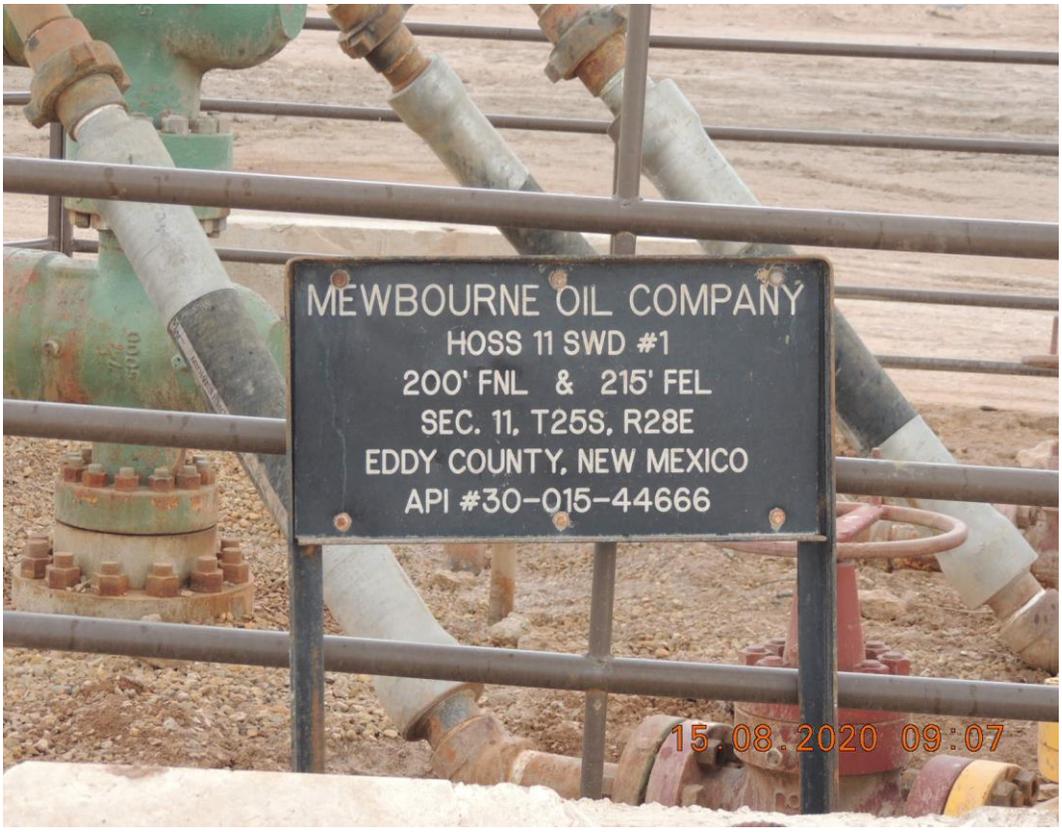
Table with 7 columns: Cooler No, Temp °C, Condition, Seal Intact, Seal No, Seal Date, Signed By. Row 1: 1, 5.8, Good, [ ], [ ], [ ], [ ]



# **Appendix D**

## **Photographic Log**

### Photographic Log

<b>Photo Number:</b> #1	
<b>Photo Direction:</b> North	
<b>Photo Description:</b> Lease sign depicting location name.	

<b>Photo Number:</b> #2	
<b>Photo Direction:</b> South	
<b>Photo Description:</b> Chloride impact on pad area.	

### Photographic Log

<b>Photo Number:</b> #3	 <p>08/07/2020 12:38 +32.451431,-104.049647</p>
<b>Photo Direction:</b> North	
<b>Photo Description:</b> Impacted area in and around surface equipment.	

<b>Photo Number:</b> #4	 <p>08/07/2020 12:36 +32.151805,-104.049786</p>
<b>Photo Direction:</b> North	
<b>Photo Description:</b> Impacted area in and around surface equipment.	

### Photographic Log

<b>Photo Number:</b> #5	 <p>08/07/2020 12:39 +32.151281,-104.049535</p>
<b>Photo Direction:</b> East	
<b>Photo Description:</b> Impacted pasture area.	

<b>Photo Number:</b> #6	 <p>08/07/2020 12:39 +32.151281,-104.049535</p>
<b>Photo Direction:</b> Northeast	
<b>Photo Description:</b> Impacted pasture area.	

## **Appendix E**

# **Cave/Karst Survey Report/Drilling Log**

**DRILL SITE CONSULTING  
822 W. DELAWARE  
HOBBS NM, 88242**

**MEWBOURNE: HOSS 11 SWD #1  
SECTION 11, TOWNSHIP 25 SOUTH, RANGE 28 EAST  
EDDY COUNTY, NEW MEXICO**

**CAVE AND KARST SURFACE EVALUATION**

**15 AUGUST, 2020**

**BLM PROJECT NUMBER, NM**

**Work was started and completed on 15 August, 2020.**

**The HOSS 11 PAD was identified. A 200 meter perimeter was walked around the entire pad within certain boundaries. A main oil field road establishes the east boundary and existing oil and gas installations provided some other boundaries. The area was walked and checked for cave and karst concerns.**

**Cave or karst concerns were identified. They are highlighted in RED.  
No other cave or karst concerns were identified.**

**Points were verified by using Garmin GPSMAP 64 hand-held GPS units with 13 S, WGS 83 as the datum.**

**The POINT LOCATIONS are for determining the route and serve no other purposes.**

**HOSS 11 PAD**

<b>POINT LOCATION</b>	<b>EUTM</b>	<b>NUTM</b>	<b>DESCRIPTION</b>
<b>NW PAD CORNER</b>	<b>589512</b>	<b>3557689</b>	<b>LOCATED</b>
<b>NE PAD CORNER</b>	<b>589633</b>	<b>3557689</b>	<b>LOCATED</b>
<b>SW PAD CORNER</b>	<b>589513</b>	<b>3557564</b>	<b>LOCATED</b>
<b>SE PAD CORNER</b>	<b>589636</b>	<b>3557564</b>	<b>LOCATED</b>
<b>C/L PAD</b>	<b>589569</b>	<b>3557629</b>	<b>LOCATED</b>

**LUCID COMPRESSOR STATION PAD**

POINT LOCATION	EUTM	NUTM	DESCRIPTION
NW CORNER OF PAD FENCE	589620	3557475	LOCATED
SW CORNER OF PAD FENCE	589657	3557356	LOCATED
SE CORNER OF PAD FENCE	589834	3557410	LOCATED
NE CORNER OF PAD FENCE	589797	3557527	LOCATED

**200 METER PERIMETER**

POINT LOCATION	EUTM	NUTM	DESCRIPTION
NW CORNER	589275	3577878	LOCATED
NE CORNER	589736	3577878	C/L OIL FIELD ROAD
SW CORNER	589314	3577368	LOCATED
SE CORNER	589314	3577368	C/L OIL FIELD ROAD

**GRIDDING CRITERIA**

The area was walked on 50 meter grid transects. The grid parameters were:

From east to west on 3557900N, 3557850N, 3557700N, 3557650N, 3557500N, & 3557450N starting at the main oil field road and stopping at 589300E,

and

From west to east on 3557800N, 3557750N, 3557600N, 3557550N, 3557400N, & 3557350N starting at 589300E and stopping at the main oil field road.

**ADDITIONAL FINDINGS OBSERVED DURING THE GRIDDED WALK**

- 1 SOLARIS BPL trending N-S on 589705E
- 2 LUCID BPL trending N-S on 589643E
- 3 LUCID BPL trending N-S on 589687E
- 4 4WIRE O/H POWER LINE trending N-S on 589640E
- 5 ORYX MIDSTREAM BPL trending NNW-SSE on 589483E
- 6 C/L road running NNW-SSE on 589391E
- 7 4 WIRE O/H POWER LINE trending NNW-SSE on 589385E
- 8 MEWBOURNE BWL on 589364E
- 9 A spill area ~40 feet square.

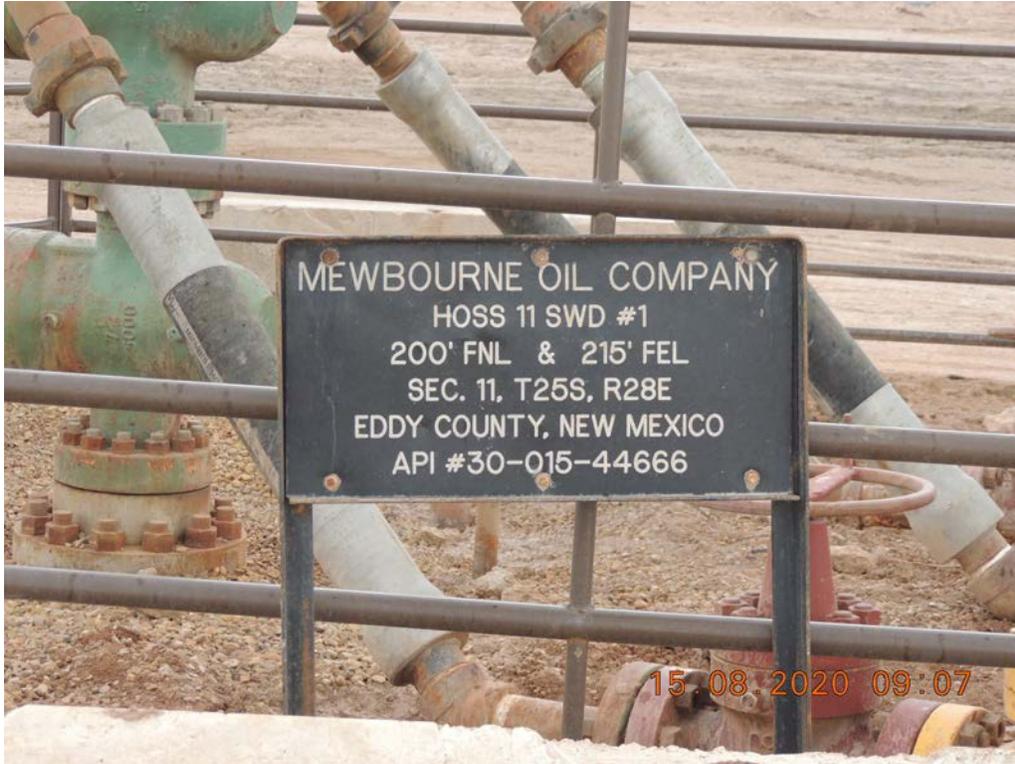
**10 A valve located on the edge of the berm. Could be the source of the spill?? 589633E, 3557592N**

The ground was composed of red/brown sandy soil. Small pieces of limestone are scattered in the walked area.

This evaluation includes only features apparent on the surface and does not include features which may exist sub-surface.

Photographs were taken.

David S. Belski  
Cave and Karst Surface Evaluation



**WELL PAD SIGNAGE**



**SURFACE DRAIN, 589304E, 3557882N, DEPTH UNKNOWN**



**SURFACE DRAIN, 589304E, 3557882N, DEPTH UNKNOWN**



**A 4" DIAMETER X 4+ FOOT DEEP HOLE DRILLED IN A SPILL AREA**



**A VALVE IN THE SPILL AREA, 589632E, 3557605N**



**A VALVE IN SPILL AREA, 589632E, 3557605N**



**TYPICAL SPILL AREA**



**CENTER OF SPILL AREA**



P.O. Box 7269  
Abilene, Texas 79608  
Tel 325-690-0053  
Fax 325-698-0055

# Drill Report M1-0957

Date: 7 Aug 20 Computer#: \_\_\_\_\_

Customer: Newbourne 2 locations Rawhide Rd.

Lease/well: Hoss II Sand #1

Drilling Rig: \_\_\_\_\_

Rig measurement: \_\_\_\_\_

One Call#: \_\_\_\_\_

Prep Time <u>0530</u>	Standby _____
Depart Shop _____	Arrived at Shop _____
Arrive at Loc. _____	Total Hours _____
Finished Job _____	

Employees: McCracken, Shawn, Dylan

	Hole (Diameter x depth)	Pipe/cellar size	Total Drill Time
Cellar			
Conductor			
Mouse			
Rat			

Ground Level	Drilling conditions (describe material; rock, sand, gravel, clay, color of material, water zones, etc)
-----	<u>53' Inside containment "No water"</u>
-----	<u>17' outside</u>
-----	<u>Rawhide</u>
-----	
-----	<u>105' Pad on Rawhide "No water"</u>
-----	<u>during drill</u>
-----	
-----	
-----	
-----	
Total Depth	

Cement	Total yards poured: _____	# Cement Trucks: _____ (volumetric/roller)
	(in-house)	Squeezed by: _____ (list third party)
Cement Employees:	_____	
Water trucks (in house) #:	3rd party water/vac #:	
Drilling mud Bbls:	_____	
Bullet teeth Qty:	Fencing provided?	yes ___ no ___ Type of fencing _____

### Job Notes

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Incident ID	NRM2018244476
District RP	
Facility ID	
Application ID	

## Remediation Plan

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

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

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

- Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- Extents of contamination must be fully delineated.
- Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Robbie Runnels Title: Environmental Specialist

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

email: rrunnels@mewbourne.com Telephone: 575-602-2188

**OCD Only**

Received by: Robert Hamlet Date: 3/2/2021

- Approved       Approved with Attached Conditions of Approval       Denied       Deferral Approved

Signature: Robert Hamlet Date: 3/2/2021

**District I**  
 1625 N. French Dr., Hobbs, NM 88240  
 Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**  
 811 S. First St., Artesia, NM 88210  
 Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**  
 1000 Rio Brazos Rd., Aztec, NM 87410  
 Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**  
 1220 S. St Francis Dr., Santa Fe, NM 87505  
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 10341

**CONDITIONS OF APPROVAL**

Operator:	MEWBOURNE OIL CO	P.O. Box 5270	Hobbs, NM88241	OGRID:	14744	Action Number:	10341	Action Type:	C-141
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OCD Reviewer	Condition
rhamlet	The entire spill area is in high karst, so the closure criteria that would apply is 600 mg/kg on Chlorides and 100 mg/kg on TPH. Please make sure all floor samples and sidewall samples are below these limits. The remediation plan is conditionally approved.