

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?	<u> >55 </u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not 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

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

Printed Name: Robbie Runnels Title: Environmental Specialist

Signature: _____ Date: _____

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

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

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

Printed Name: Robbie Runnels Title: Environmental Specialist

Signature: _____ Date: _____

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:

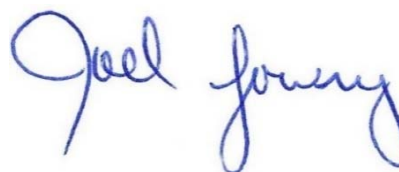
Etech Environmental & Safety Solutions, Inc.

3100 Plains Highway

Lovington, New Mexico 88260



Lance Crenshaw



Joel W. Lowry



Midland • San Antonio • Lubbock • Lovington • Lafayette

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- Appendix C - Laboratory Analytical Reports
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- 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:

Location of Release Source

Latitude: 32.151564 Longitude: -104.050164

Provided GPS are in WGS84 format.

Site Name: <u>Hoss 11 SWD #1</u>	Site Type: <u>SWD</u>
Date Release Discovered: <u>6/29/2020</u>	API # (if applicable): <u>30-015-44666</u>

Unit Letter	Section	Township	Range	County
A, D	11, 12	25S	28E	Eddy

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

Nature and Volume of Release

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) <u>100</u>	Volume Recovered (bbls) <u>70</u>
	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: <u>Hammer Union on the discharge line parted.</u>		

Initial Response

<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?	<u>>55'</u>		
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 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	
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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	
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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

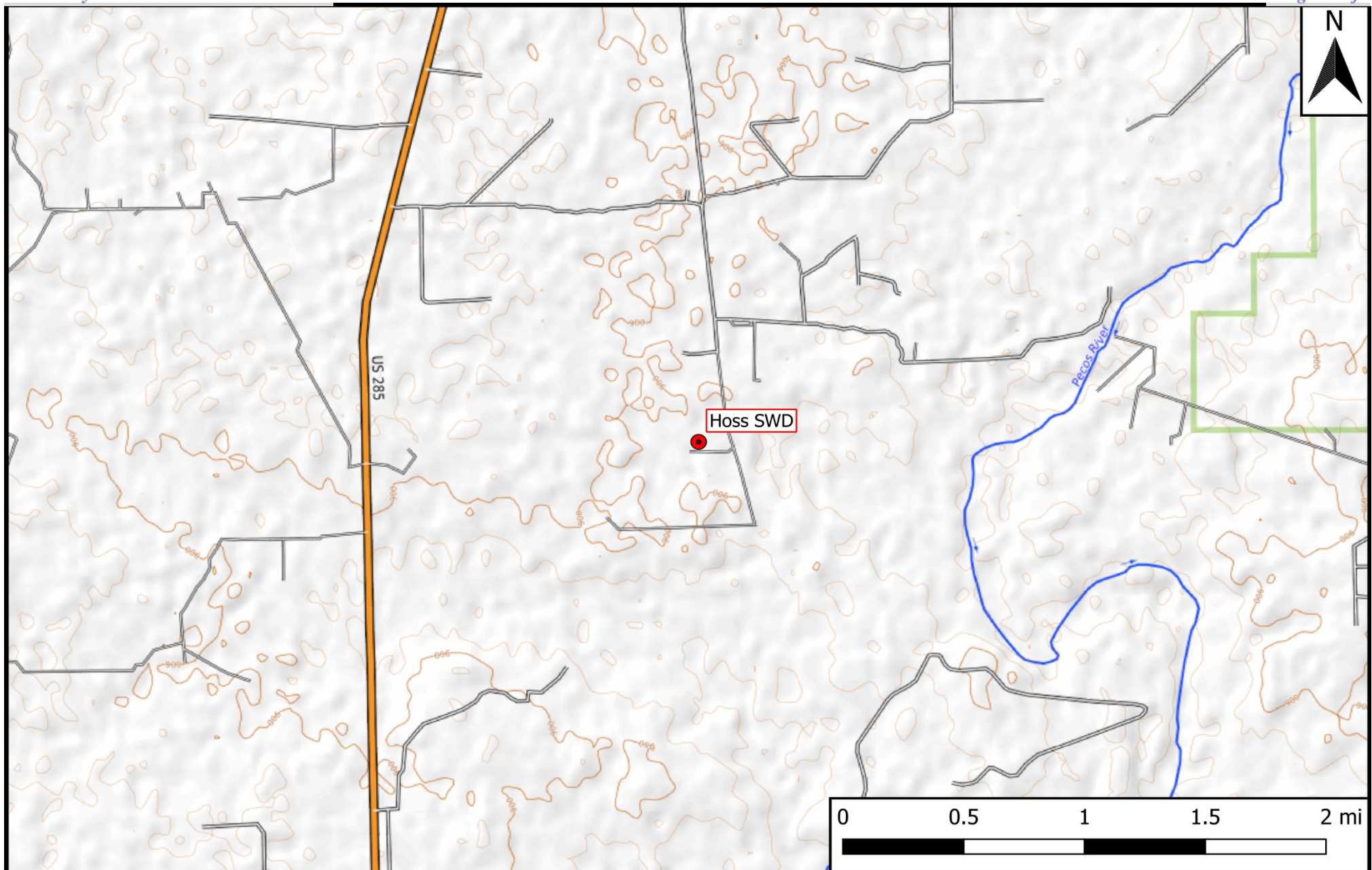
Mewbourne Oil Company
4801 Business Park Blvd.
Hobbs, NM 88240

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



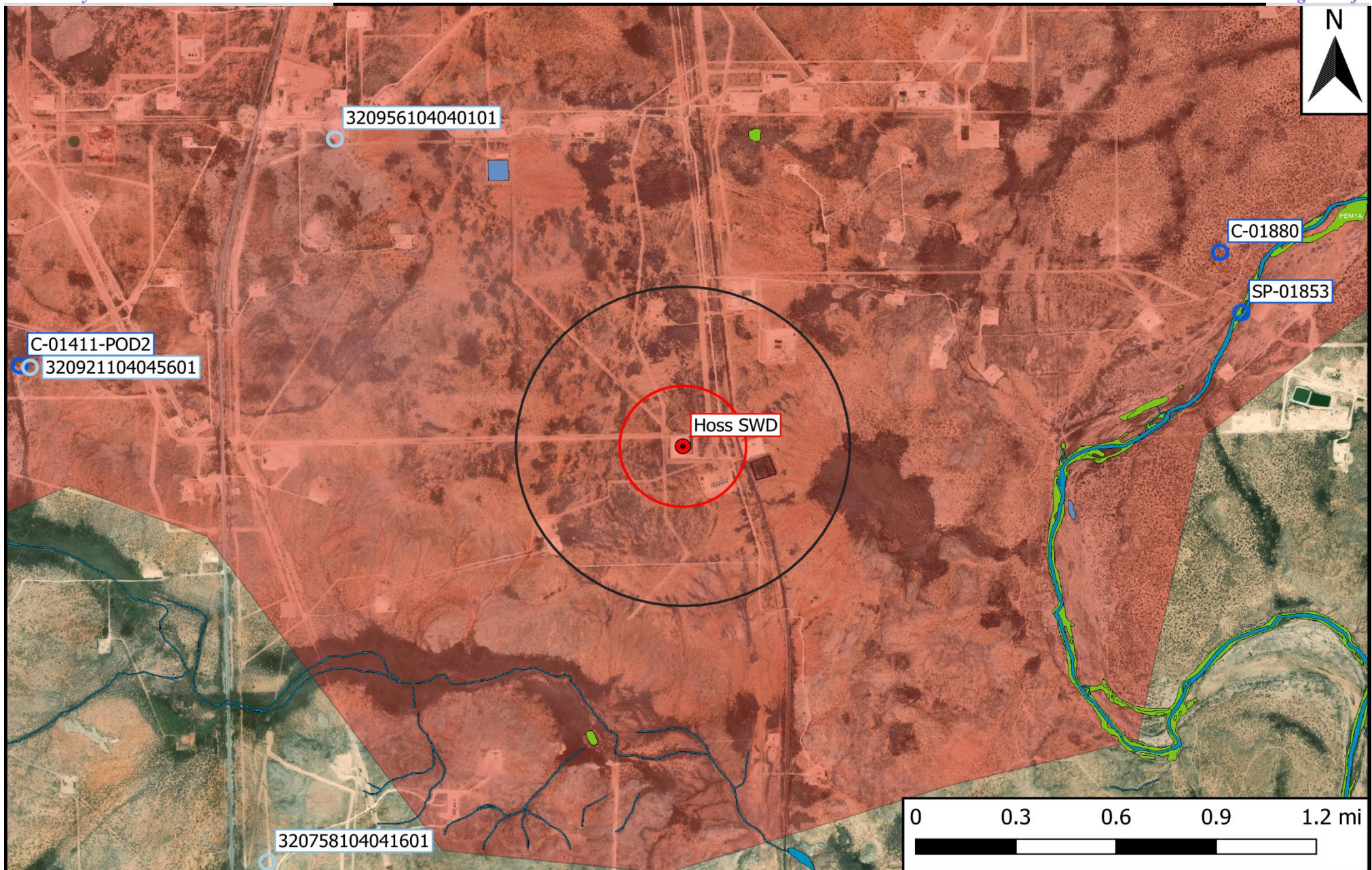
Drafted: mag

Checked: jwl

Date: 8/25/20

Figure 2

Aerial Proximity Map



Legend

- Site Location
- Well - NMOSE
- Well - USGS
- High Karst
- Potash Mine Workings
- 0.5 Mi Radius
- 1000 Ft Radius
- 1% Annual Flood Chance
- Lake/Freshwater Pond
- Emergent/Forested Wetlands
- 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

**Figure 3**

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

eTECH
 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 ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (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 @ Surt	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	16,000
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	14,000
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	25,000
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	20,000
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	16,000
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	32,000
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	16,000
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	14,000
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	59,000
SP10 @ 2'	7/16/2020	2'	In-Situ	ND	ND	ND	ND	ND	ND	ND	150

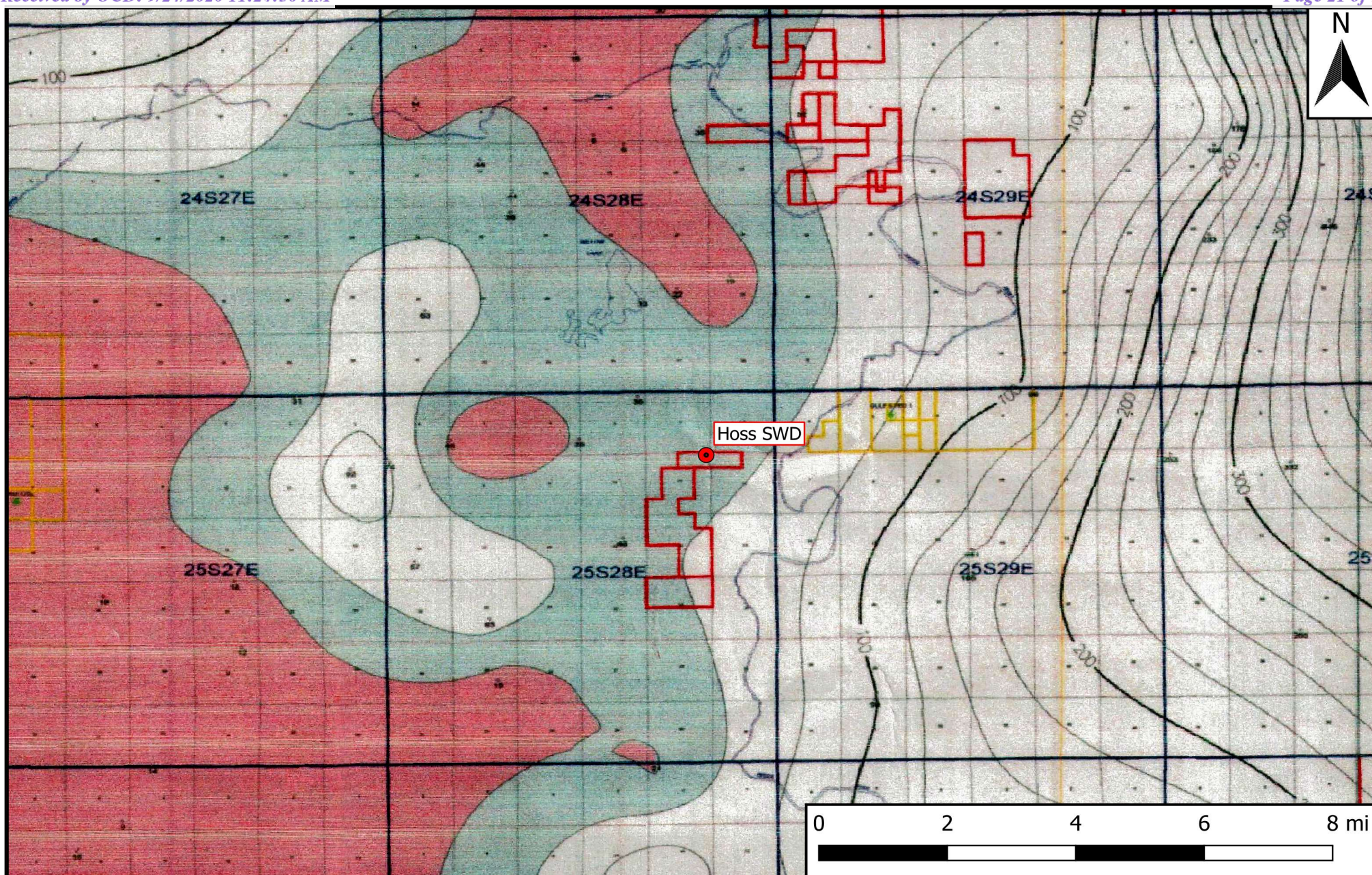
NOTES:

- = 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

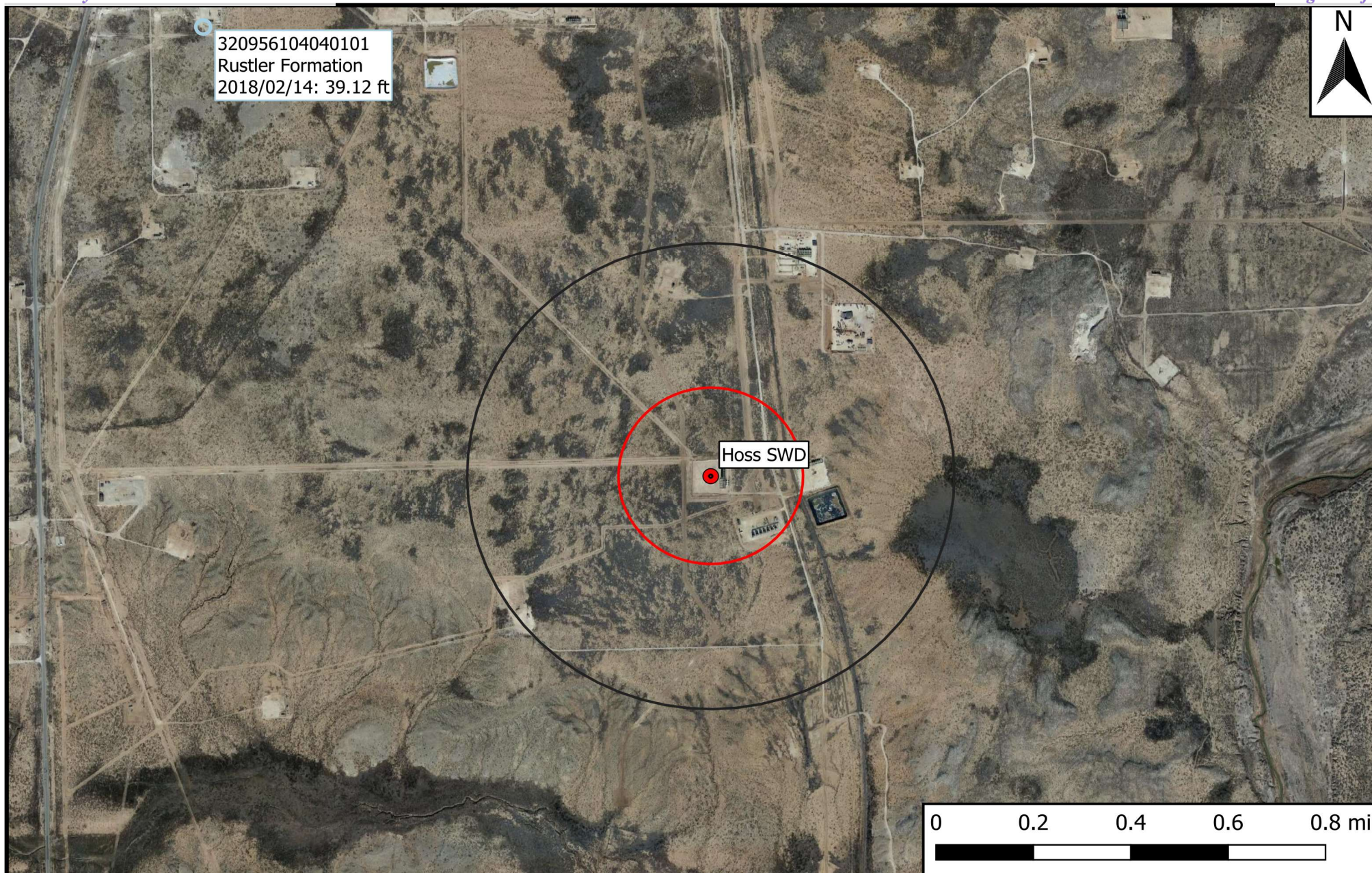
Inferred Depth to Groundwater Trend Map
 Mewbourne Oil Company
 Hoss SWD
 GPS: 32.151564, -104.050164
 Eddy County



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	Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tw	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
C_01880		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)

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

x

Driller License: 46 **Driller Company:** ABBOTT BROTHERS COMPANY

Driller Name: MURRELL ABBOTT

Drill Start Date: 10/29/1979

Drill Finish Date: 10/30/1979

Plug Date:
Log File Date: 11/05/1979

PCW Rcv Date:
Source: Shallow

Pump Type:
Pipe Discharge Size:
Estimated Yield:
Casing Size: 7.00

Depth Well: 85 feet

Depth Water: 40 feet

x

Water Bearing Stratifications:
Top Bottom Description

40 85 Sandstone/Gravel/Conglomerate

x

Casing Perforations:
Top Bottom

40 60

x

*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:

Groundwater

Geographic Area:

United States

GO

Click to hideNews Bulletins

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

Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =

- 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

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

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water-level approval status	
1948-12-06			D	32.27			2		U		U	A
1978-01-03			D	32.97			2		U		U	A
1983-02-01			D	25.87			2		U		U	A
1987-10-14			D	29.27			2		U		U	A
1988-03-22			D	29.93			2		U		U	A
1992-11-04			D	35.03			2		S		U	A
1998-01-23			D	33.84			2		S		U	A
2003-01-27			D	32.08			2		S	USGS	A	A
2013-01-10	14:20 MST		m	33.56			2		S	USGS	R	A
2018-02-14	09:56 MST		m	39.12			2		V	USGS	S	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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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	
SH7 @ Surf.		476	
SH7 @ 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

Floor = FL #1 etc

Sidewall = SW #1 etc

Test Trench = TT #1 @ ##

Refusal = SP #1 @ 4'-R

Soil Intended to be Deferred = SP #1 @ 4' In-Situ

Resamples = SP #1 @ 5b or SW #1b

Stockpile = Stockpile #1

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		512	
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

Floor = FL #1 etc

Sidewall = SW #1 etc

Test Trench = TT #1 @ ##

Refusal = SP #1 @ 4'-R

Soil Intended to be Deferred = SP #1 @ 4' In-Situ

Resamples = SP #1 @ 5b or SW #1b

Stockpile = Stockpile #1

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)

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40

Description

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



Initial Release Assessment Form

Date: 7-15-20

Project: Hoss 11 SWD #1

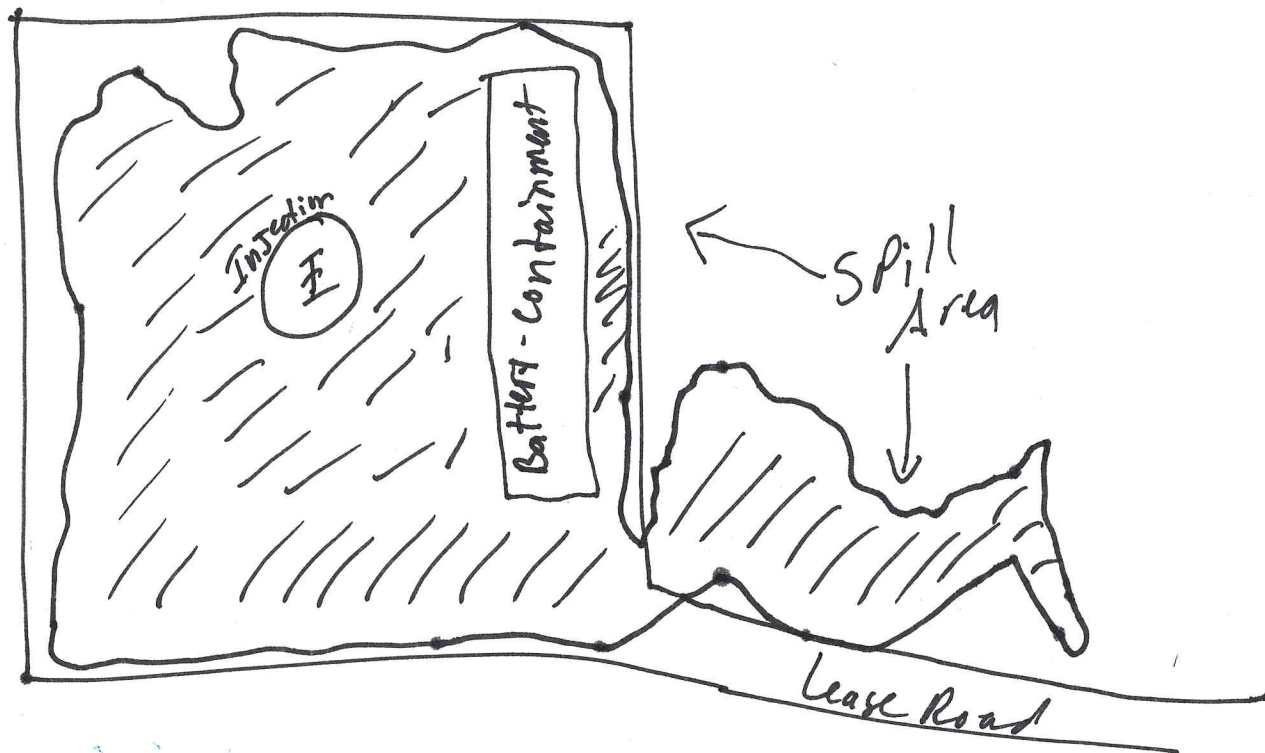
Clean Up Level: 0

Project Number: 12712

Latitude: 32.151564

Longitude: -104.050164

Site Diagram



Notes:

Notes section with multiple horizontal lines for text entry.

~Length: 550'

~Width: 400'

~Area: 127,000 sq. ft

~Depth:

3-4 Representative Pictures of the Affected Area including sample locations?

Yes No

Necessary Samples Field Screened and on Ice?

Sample and Field Screen Data Entered on Sample Log?

Was horizontal and vertical delineation achieved?

<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	59		mg/Kg	20	7/22/2020 4:06:03 AM	53881
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
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.

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

Page 1 of 0

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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	7/22/2020 4:18:27 AM	53881
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
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.

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

Page 2 of 0

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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	7/22/2020 4:30:51 AM	53881
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	220	60		mg/Kg	20	7/22/2020 4:43:15 AM	53881
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
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.

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

Page 4 of 0

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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	7/22/2020 5:20:29 AM	53881
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	7/22/2020 5:32:54 AM	53881
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	430	60		mg/Kg	20	7/22/2020 5:45:19 AM	53881
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	180	60		mg/Kg	20	7/22/2020 12:56:03 PM	53809
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	7/22/2020 1:33:16 PM	53809
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	7/22/2020 1:45:40 PM	53809
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	64	60		mg/Kg	20	7/22/2020 1:58:05 PM	53809
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	100	60		mg/Kg	20	7/22/2020 2:10:30 PM	53809
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	7/22/2020 2:22:55 PM	53809
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	7/22/2020 2:35:19 PM	53809
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	62	60		mg/Kg	20	7/22/2020 3:12:33 PM	53809
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
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
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	ND	60		mg/Kg	20	7/22/2020 3:24:58 PM	53890
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	340	60		mg/Kg	20	7/22/2020 3:37:22 PM	53890
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	260	60		mg/Kg	20	7/22/2020 3:49:47 PM	53890
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	7/23/2020 11:20:06 AM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	7/23/2020 11:57:09 AM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	16000	600		mg/Kg	200	7/24/2020 11:16:13 PM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	210	60		mg/Kg	20	7/23/2020 12:46:33 PM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	9600	600		mg/Kg	200	7/24/2020 11:28:38 PM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	290	60		mg/Kg	20	7/23/2020 1:11:15 PM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	14000	600		mg/Kg	200	7/24/2020 11:41:03 PM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	350	60		mg/Kg	20	7/23/2020 1:35:55 PM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	25000	1500		mg/Kg	500	7/24/2020 11:53:28 PM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	330	60		mg/Kg	20	7/23/2020 2:00:38 PM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	20000	1500		mg/Kg	500	7/25/2020 12:05:53 AM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	330	60		mg/Kg	20	7/23/2020 2:25:19 PM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	16000	590		mg/Kg	200	7/25/2020 12:18:17 AM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	210	60		mg/Kg	20	7/23/2020 3:14:43 PM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	32000	1500		mg/Kg	500	7/25/2020 12:30:42 AM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	280	60		mg/Kg	20	7/23/2020 3:39:25 PM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	16000	600		mg/Kg	200	7/25/2020 12:43:07 AM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	800	60		mg/Kg	20	7/23/2020 4:04:07 PM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	14000	600		mg/Kg	200	7/25/2020 12:55:31 AM	53915
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	270	60		mg/Kg	20	7/23/2020 4:53:32 PM	53917
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	59000	3000		mg/Kg	1E+	7/25/2020 1:07:56 AM	53917
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	150	60		mg/Kg	20	7/23/2020 6:07:36 PM	53917
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
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
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
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
EPA METHOD 8021B: VOLATILES							Analyst: NSB
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.

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

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Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: 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 or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 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
EPA METHOD 300.0: ANIONS							Analyst: CAS
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.

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

Page 1 of 2

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 2008988
26-Aug-20

Client: Mewbourne Oil Company
Project: Hoss SWD

Sample ID: MB-54676		SampType: mblk			TestCode: EPA Method 300.0: Anions					
Client ID: PBS		Batch ID: 54676			RunNo: 71336					
Prep Date: 8/25/2020		Analysis Date: 8/25/2020			SeqNo: 2490791		Units: mg/Kg			
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

Chain of Custody

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

Log In

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

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

Special Handling (if applicable)

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

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

16. Additional remarks:

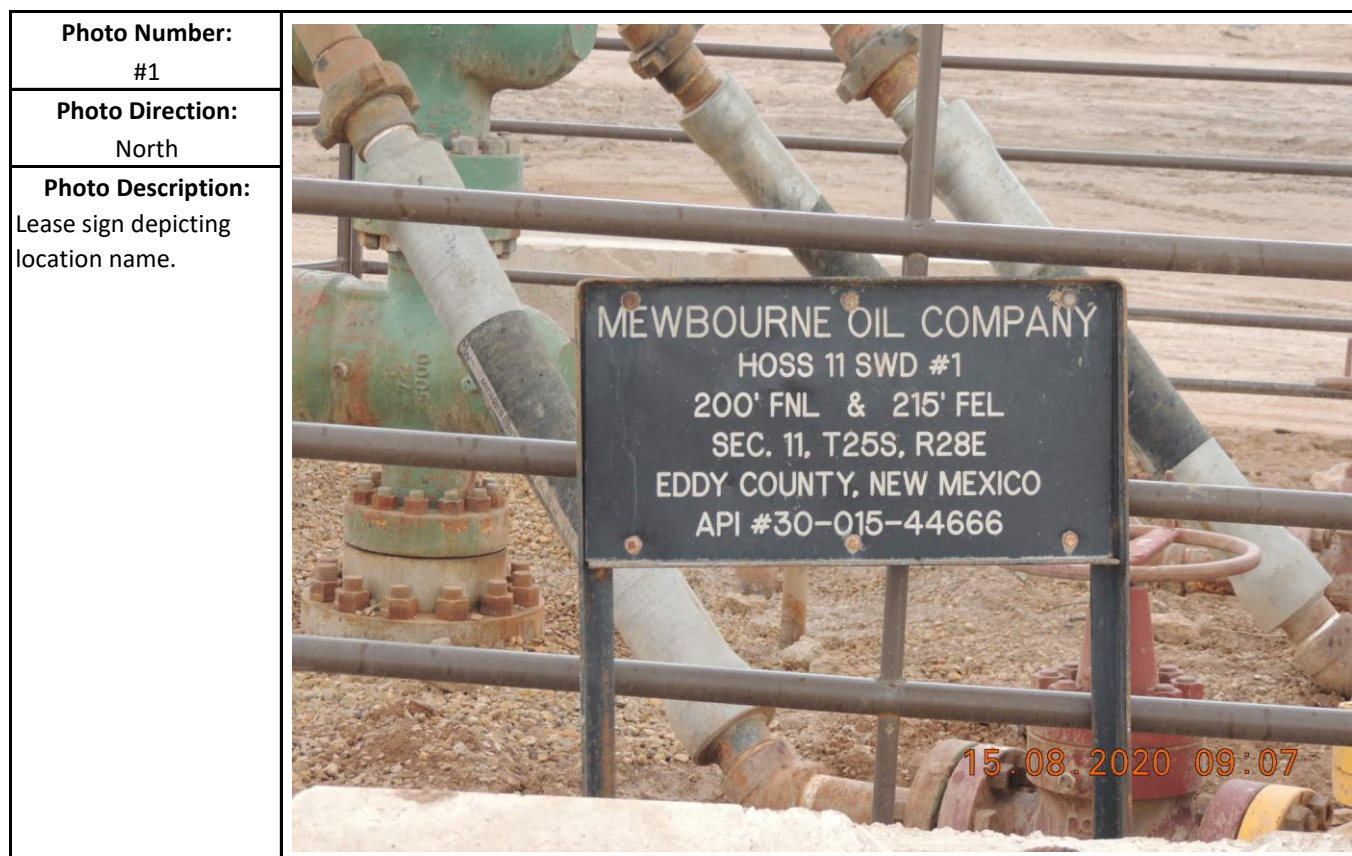
17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.8	Good				

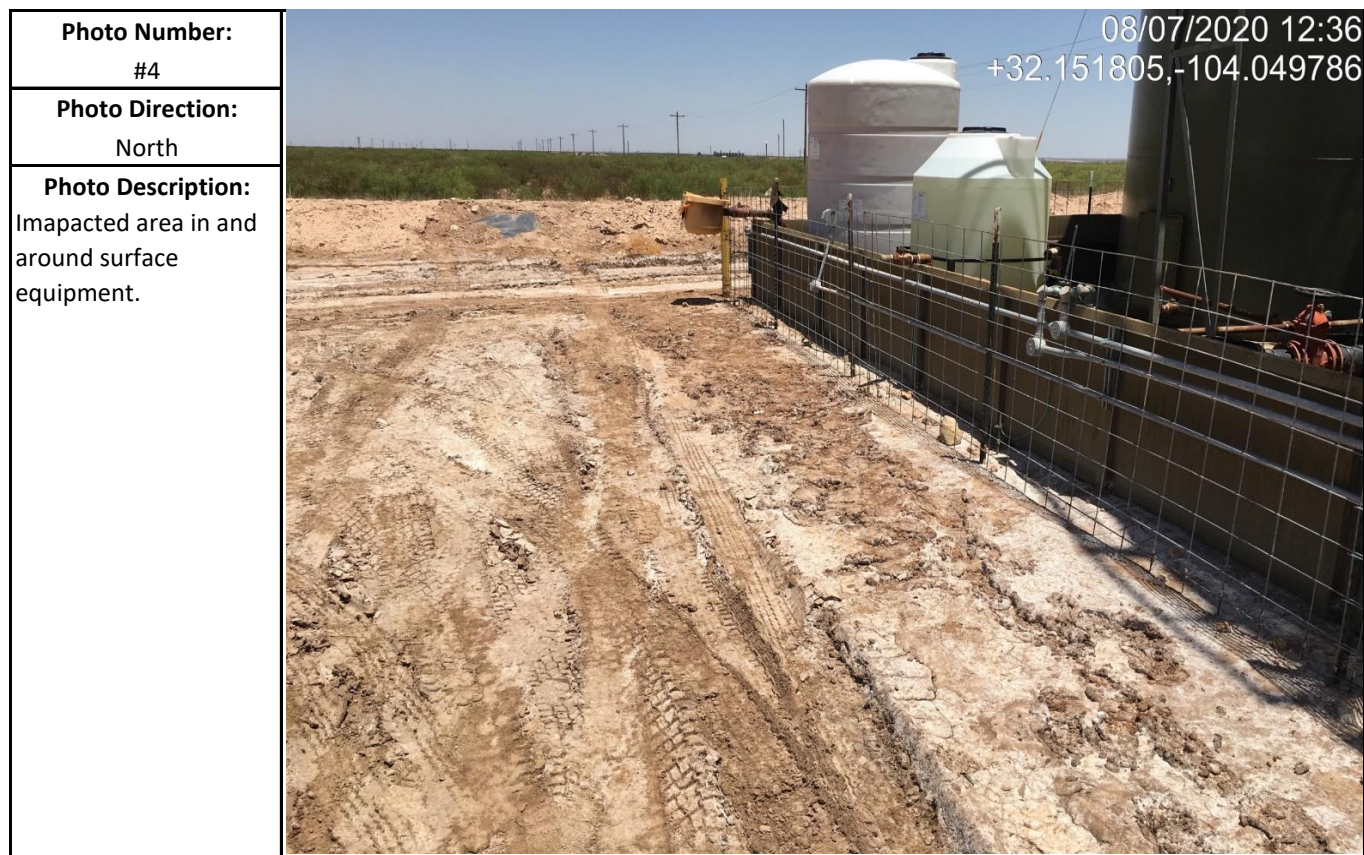
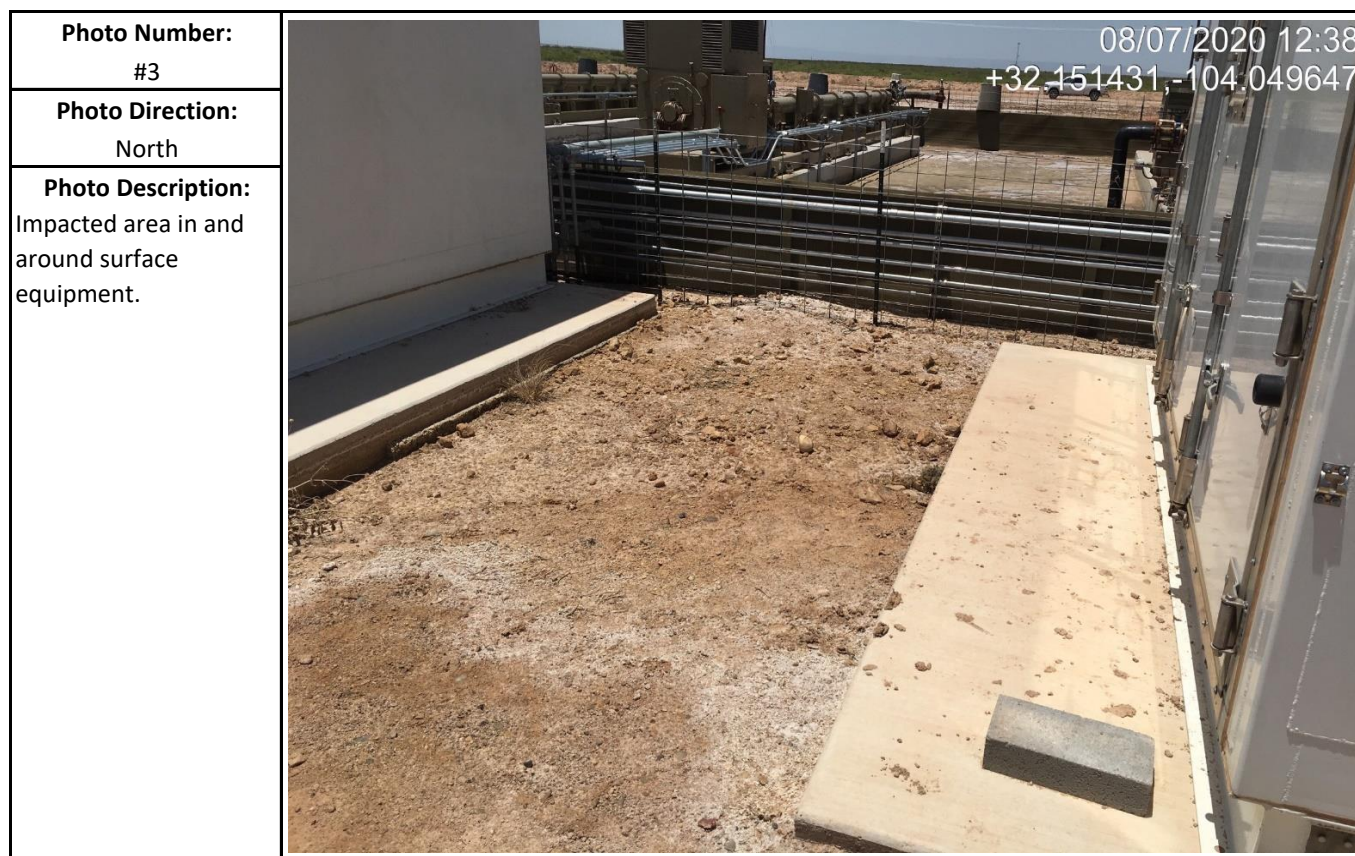
Appendix D

Photographic Log

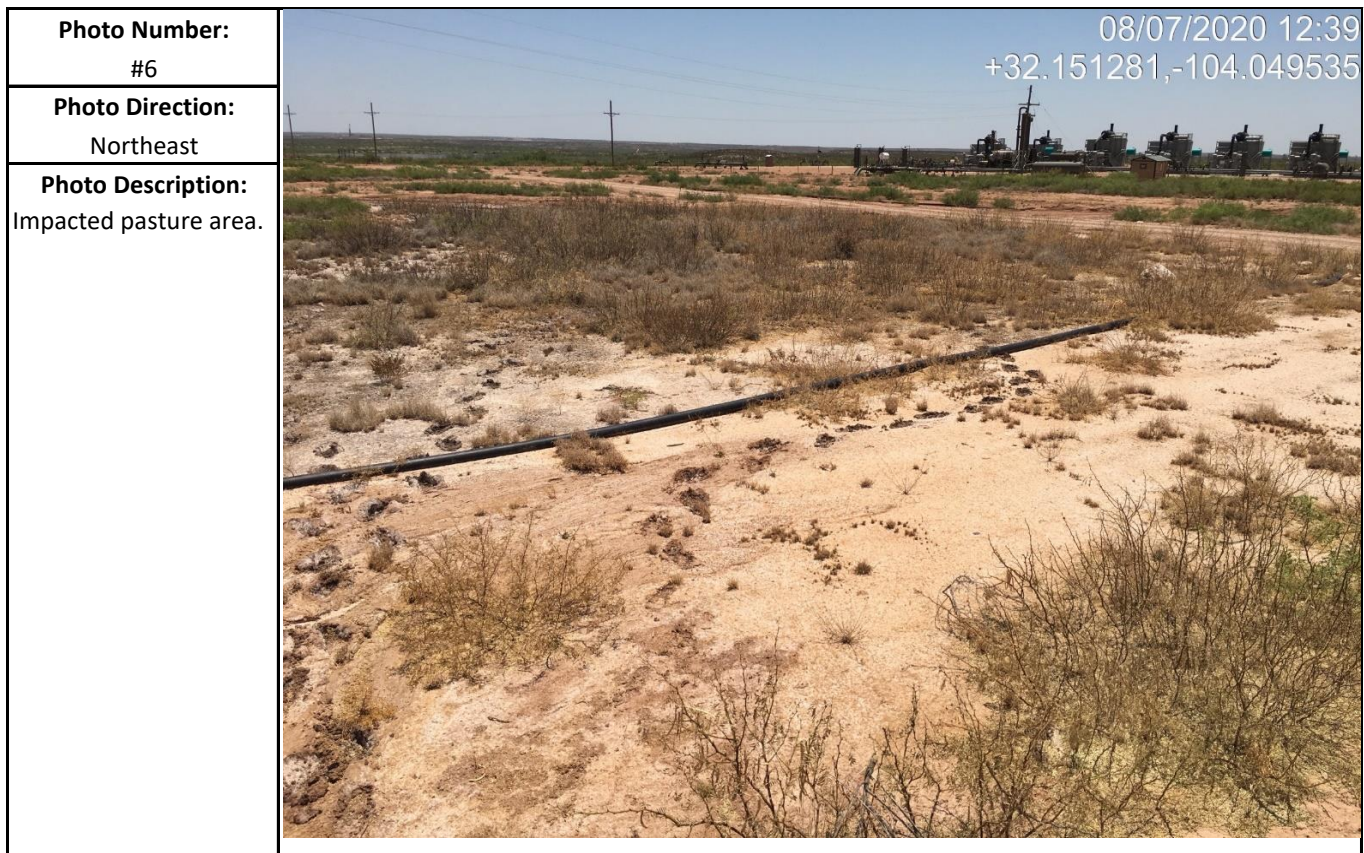
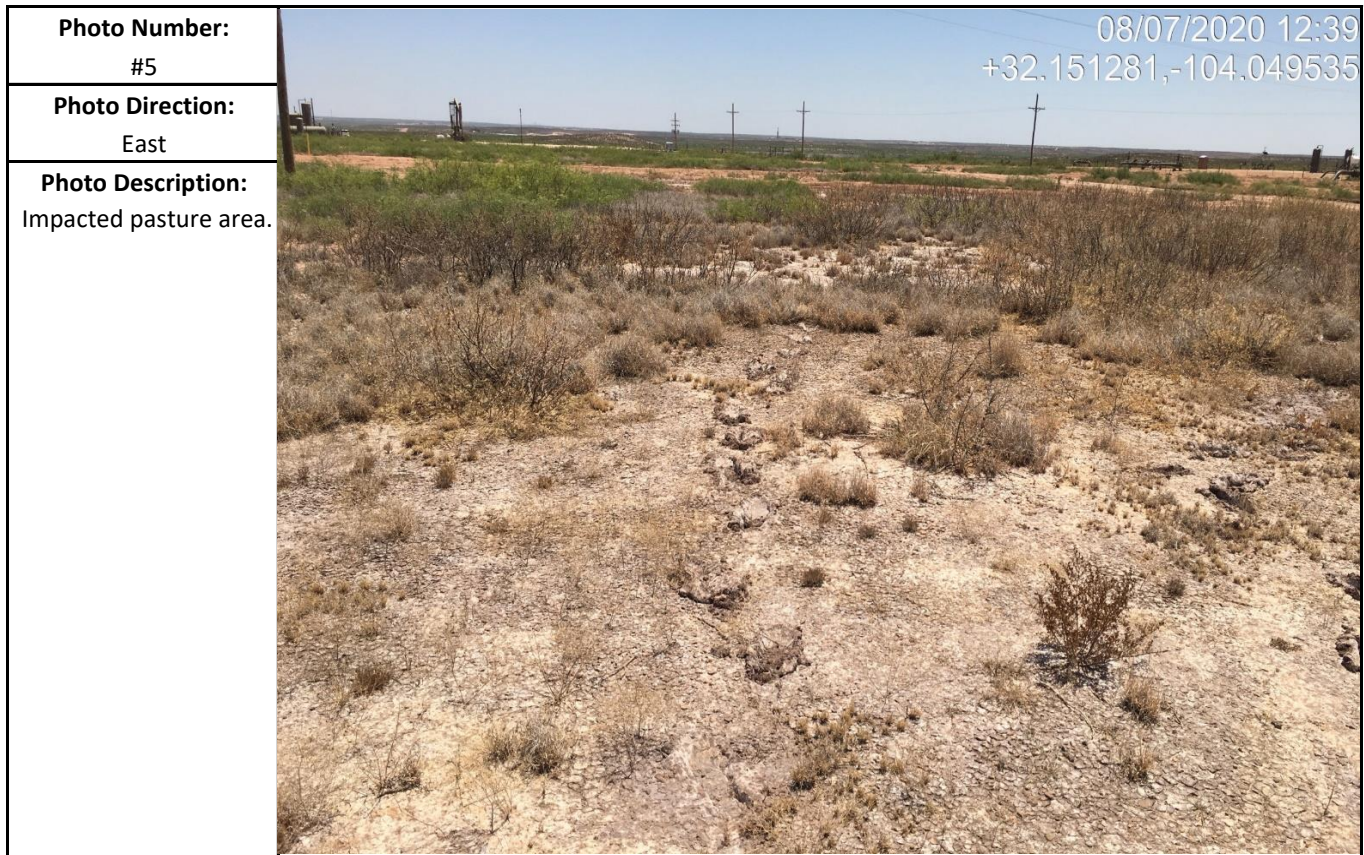
Photographic Log



Photographic Log



Photographic Log



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

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

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.

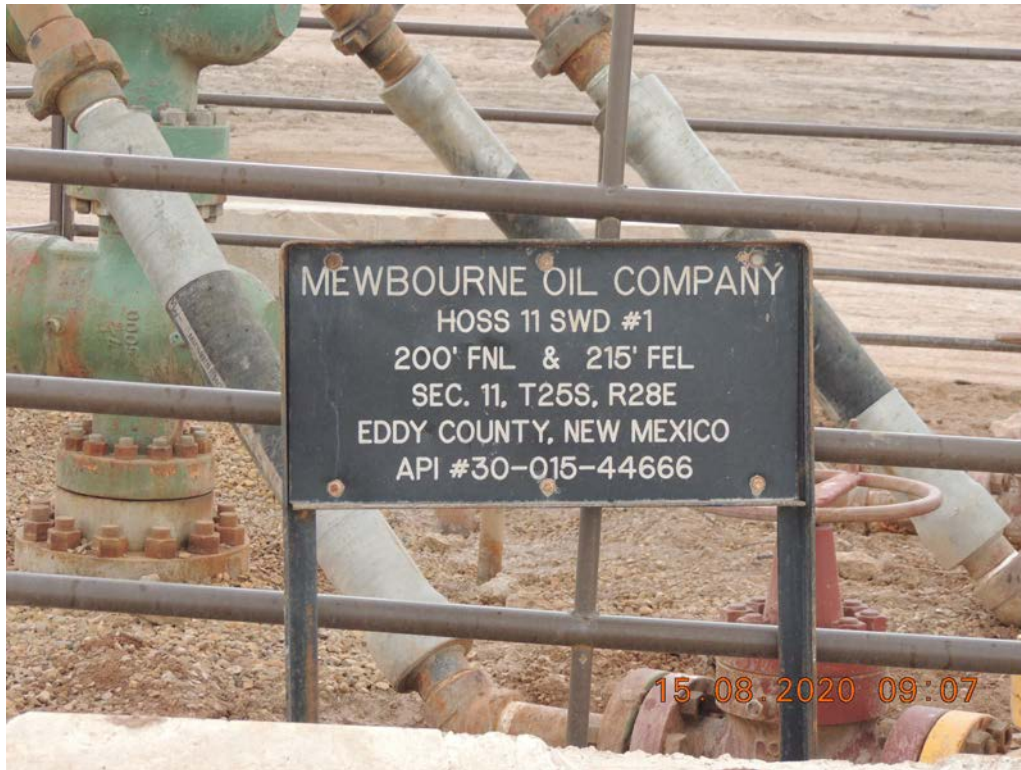
10 A valve located on the edge of the berm. Could be the source of the spill?? 589633E, 3557592N

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

**DRILL LLC**

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

Drill Report

M1 0957Date: Aug 20 Computer#: _____Customer: Newbourne 2 locations Rawhide RdLease/well: Hoss II Sand #1

Drilling Rig: _____

Rig measurement: _____

One Call#: _____

Prep Time 0530 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)
-----	53' Inside containment "No water"
-----	17' outside During drill
-----	Rawhide

-----	105' Pad on Rawhide "No water"
-----	During drill

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

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:				OGRID:	Action Number:	Action Type:
	MEWBOURNE OIL CO	P.O. Box 5270	Hobbs, NM88241	14744	10341	C-141

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.