Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	nRM2030230289
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?	95 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☑ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☑ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☑ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☑ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☑ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☑ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☑ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☑ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☑ Yes ☐ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nRM2030230289
District RP	
Facility ID	
Application ID	

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

Printed Name: Robbie Runnels Title: Environmental Specialist

Signature: Date: 12/2/20

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

OCD Only

Received by: Cristina Eads Date: 12/09/2020

State of New Mexico
Oil Conservation Division

Incident ID	nRM2030230289
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: 12/2/20

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

OCD Only

Received by: Cristina Eads Date: 12/09/2020

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

Signature: _____ Date: 02/04/2021

Site Assessment Report and Proposed Remediation Workplan

Mewbourne Oil Company
Carlsbad Water Management System
Eddy County, New Mexico
Unit Letters F & K, Section 35, Township 23 South, Range 27 East
Latitude 32.261438 North, Longitude 104.163478 West
NMOCD Reference No. nRM2030230289

Prepared By:

Etech Environmental & Safety Solutions, Inc.
3100 Plains Highway
Lovington, New Mexico 88260

Ben J. Arguijo

Joel W. Lowry

Midland • San Antonio • Lubbock • Lovington • Lafayette

TABLE OF CONTENTS

1.0 PROJECT INFORMATION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of Mewbourne Oil Company, has prepared this Site Assessment Report and Proposed Remediation Workplan for the release site known as the Carlsbad Water Management System. Details of the release are summarized below:

Location of Release Source

Latitude: 32.261438 Longitude: -104.163478

Provided GPS are in WGS84 format.

Site Name:	Carlsbad Water Management System	Site Type:	Pipeline
Date Release Discovered:	10/19/2020	API # (if applicable):	N/A

Unit Letter	Section	Township	Range	County
F & K	35	23S	27E	Eddy

Surface Owner: [ ] State [X] Federal [ ] Tribal [ ] Private (Name _____)

Nature and Volume of Release

[ ] Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
[X] Produced Water	Volume Released (bbls) 150	Volume Recovered (bbls) 20
	Is the concentration of dissolved chloride in the produced water > 10,000 mg/L?	[X] Yes [ ] No [ ] N/A
[ ] Condensate	Volume Released (bbls)	Volume Recovered (bbls)
[ ] Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
[ ] Other (describe)	Volume/Weight Released	Volume/Weight Recovered

Cause of Release:
12" Poly pup joint split on pipeline riser.

Initial Response

[X] The source of the release has been stopped.
[X] The impacted area has been secured to protect human health and the environment.
[X] Release materials have been contained via the use of berms or dikes, absorbent pad, or other containment devices
[X] 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 INITIAL SITE ASSESSMENT

On November 9, 2020, Etech conducted an initial site assessment. During the initial site assessment, a series of test trenches were advanced within the release margins in an effort to determine the vertical extent of soil impacts. In addition, hand-augered soil bores 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 test trenches and hand-augered soil bores, 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. Based on field observations and field test data, 16 delineation soil samples (TT1 @ Surface, TT1 @ 11', TT2 @ Surface, TT2 @6', TT3 @ Surface, TT3 @6', TT4 @ Surface, TT4 @7', TT5 @ Surface, TT5 @3', SH1 @ 2.5', NH1 @ 2.5', EH1 @ 2.5', EH2 @ 2.5', WH1 @ 2.5', and WH2 @ 2.5') were submitted to a certified commercial laboratory for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX); total petroleum hydrocarbons (TPH); and chloride.

Locations of the test trenches and hand-augered soil bores are depicted in Figure 3A, "Site and Sample Location Map - Delineation". Field data is provided in Appendix A. A soil chemistry table is provided as Table 1. Laboratory analytical reports are provided in Appendix B. General photographs of the release site are provided in Appendix C.

3.0 SITE CHARACTERIZATION AND CLOSURE CRITERIA

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. Depth to groundwater information is provided in Appendix D.

What is the shallowest depth to groundwater beneath the area affected by the release?	95 feet
Did the release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of any occupied permanent residence, school, hospital, institution or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within the incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas not on an exploration, development, production or storage site?	☒ Yes ☐ No

NMOCD Siting Criteria data was gathered from available resources including Bureau of Land Management (BLM) and Playa Lakes Joint Venture (PLJV) shapefiles; topographic maps; NMOSE, USGS, and United States Fish & Wildlife Service (USFWS) databases; and aerial imagery. The results are depicted in Figures 1, 2, 4 & 5.

Although portions of the spill affected a low-lying area to the southeast of the point of release, GIS map data provided on the websites of the USFWS's National Wetlands Inventory and the PLJV project does not identify the depression as either a wetland or a probable playa. In addition, elevation data indicates the change in elevation across the depression is less than 4 feet, ranging from 3,143 feet in the approximate center of the depression (i.e., the lowest-lying point) to 3,146 feet along the periphery. An elevation profile is provided in Appendix E.

Review of GIS map data published by the BLM indicates the release site is in an area of "medium" potential for encountering karst and naturally occurring sinkholes. An area of "high" potential was identified approximately 1 mile to the east-southeast of the site. Although the release site is located in an area of medium potential for karst occurrence, which is considered by the NMOCD to be stable, additional investigation into the potential for groundwater impact was warranted.

A search of groundwater quality data in the USGS's National Water Information System indicated the historic concentration of chloride in the area is 340 mg/L, which exceeds the New Mexico Water Quality Control Commission (NMWQCC) standard of 250.0 mg/L specified in Section 20.6.2.3103 B.(1) of the New Mexico Administrative Code (NMAC).

On November 19, 2020, a groundwater sample was collected from a nearby public water supply system well in an effort to confirm the background concentration of chloride at/near the release site. The groundwater sample was submitted to a certified commercial laboratory for analysis of chloride and total dissolved solids (TDS). Laboratory analytical results indicated the chloride concentration was 356 mg/L, and the TDS concentration was 2,050 mg/L.

Since the background concentration of chloride in the groundwater in the area is above the NMWQCC standard of 250.0 mg/L, a less stringent clean-up level for chloride in soil is allowable than would typically be conferred to a site located in an area of medium to high karst potential. To illustrate this, based on the vertical extent of soil impacts determined during the initial site assessment, Etech utilized the American Petroleum Institute's (API) AMIGO Online Decision Support tool to model the migration of in-situ choride contamination to groundwater under the following scenarios: 1.) a 600 mg/kg chloride closure level, with excavation depths ranging from 5 to 10 feet below ground surface (bgs) (see Appendix G, pages 1 through 5), and 2.) a 10,000 mg/kg closure level, with a total excavation depth of 4 feet bgs (Appendix G, pages 6-10). (NOTE: TPH and BTEX were not detected below 4 feet bgs, and thus are not considered contaminants of concern at depth.)

Using the most conservative parameters possible for the release site in regard to depth to water (90 feet), aquifer porosity (0.3), soil profile (medium sand), etc., the model output indicates that the peak concentration of chloride in groundwater contributed by the in-situ contamination would be approximately 350.9 mg/L in 243.4 years under Scenario #1 (600 mg/kg closure level) and 379.2 mg/L in 219.7 years under Scenario #2 (10,000 mg/kg closure level). The migration models effectively demonstrate that a 10,000 mg/kg chloride closure level provides an "equal...protection of fresh water, public health and the environment" as a 600 mg/kg closure level, pursuant to Sections 19.15.29.13.E and 19.15.29.14.A(2) NMAC.

The locations of the USGS and public water supply wells are depicted in Figure 6. Groundwater quality data is provided in Appendix F. AMIGO chloride migration model data is provided in Appendix G.

Based on the information summarized above, Mewbourne Oil Company requests the following Closure Criteria and Reclamation Standards for the site:

Probable Depth to Groundwater	Constituent	Method	Closure Criteria	Reclamation Standard*
95 feet	Chloride	EPA 300.0 or SM4500 Cl B	10,000 mg/kg	600 mg/kg
	TPH (GRO + DRO + MRO)	EPA SW-846 Method 8015M Ext	2,500 mg/kg	100 mg/kg
	DRO + GRO	EPA SW-846 Method 8015M	1,000 mg/kg	-
	BTEX	EPA SW-846 Methods 8021b or 8260b	50 mg/kg	50 mg/kg
	Benzene	EPA SW-846 Methods 8021b or 8260b	10 mg/kg	10 mg/kg

* The NMOCD Reclamation Standard applies only to the top 4' of soil in non-production areas.

4.0 REMEDIATION ACTIVITIES SUMMARY

On November 10, 2020, Etech commenced remediation activities at the site. In accordance with NMOCD regulatory guidelines, impacted soil affected above the NMOCD Closure Criteria and/or NMOCD Reclamation Standard was excavated and stockpiled on-site, pending transfer to an NMOCD-approved surface waste facility for disposal. The floor and sidewalls of the excavation were advanced until field observations and test results suggested BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria and/or NMOCD Reclamation Standard.

Etech also collected 7 excavation confirmation soil samples (EW1, EW2, EW3, EW5, EW6, EW7, and EW9). The soil samples were submitted to a certified commercial laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria and/or the NMOCD Reclamation Standard in each of the submitted soil samples, with the exception of sample EW2, which exhibited a chloride concentration over the NMOCD Reclamation Standard of 600 mg/kg.

On November 11, 2020, Etech collected 2 excavation confirmation soil samples (EW4 E and EW8 B). The soil samples were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria and/or the NMOCD Reclamation Standard in each of the submitted soil samples.

On November 12, 2020, Etech collected 1 excavation confirmation soil sample (SW1 C). The soil sample was submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria and/or the NMOCD Reclamation Standard.

On November 16, 2020, Etech collected 4 excavation confirmation soil samples (SW2, WW1 B, WW2 B, and WW3). The soil samples were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria and/or the NMOCD Reclamation Standard in each of the submitted soil samples.

As of November 30, 2020, approximately 5,020 cubic yards of impacted soil had been excavated and transported to an NMOCD-approved surface waste facility for disposal.

Soil sample locations and the footprint of the current excavation are depicted in Figure 3B, "Site and Sample Location Map - Excavation". Field data is provided in Appendix A.

5.0 PROPOSED REMEDIATION PLAN

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

- Utilizing mechanical equipment, excavate impacted soil affected above the NMOCD Closure Criteria as follows:
  - Approximately 3 feet bgs in the area characterized by sample point TT-5.
  - Approximately 4 feet bgs in the areas characterized by sample points TT-1 through TT-4.
- The sidewalls of the excavated areas will be advanced until laboratory analytical results indicate impacted soil affected above the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard has been removed.
- Excavated material will be temporarily stockpiled on-site, pending transfer to an NMOCD-approved facility for disposal.
- Upon excavating impacted soil affected above the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard, collect the requisite excavation confirmation soil samples.
- Upon receiving laboratory analytical results from excavation confirmation soil samples, backfill the excavated area with locally sourced, non-impacted "like" material. The excavated area will then be compacted and contoured to match the surrounding topography.
- Upon completion of remediation activities, a *Remediation Summary and Soil Closure Request* will be prepared, detailing field activities and laboratory analytical results from confirmation soil samples.

6.0 SAMPLING PLAN

On November 10, 2020, Etech submitted a request to the NMOCD for an alternative sampling to include the collection of composite soil samples every 50 linear feet from the excavation sidewalls and every 400 square feet from the base of the excavated area (for an approximate total of 213 floor samples). The request was subsequently approved by the NMOCD.

7.0 TIMELINE AND ESTIMATED VOLUME OF SOIL TO BE REMEDIATED

Remediation activities commenced on November 10, 2020, and 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 and subsequent remediation activities, the total volume of soil remaining to be excavated is approximately 11,302 cubic yards.

8.0 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 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 an agency and/or landowner-approved seed mixture during the first favorable growing season following closure of the site.

9.0 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.

10.0 DISTRIBUTION

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

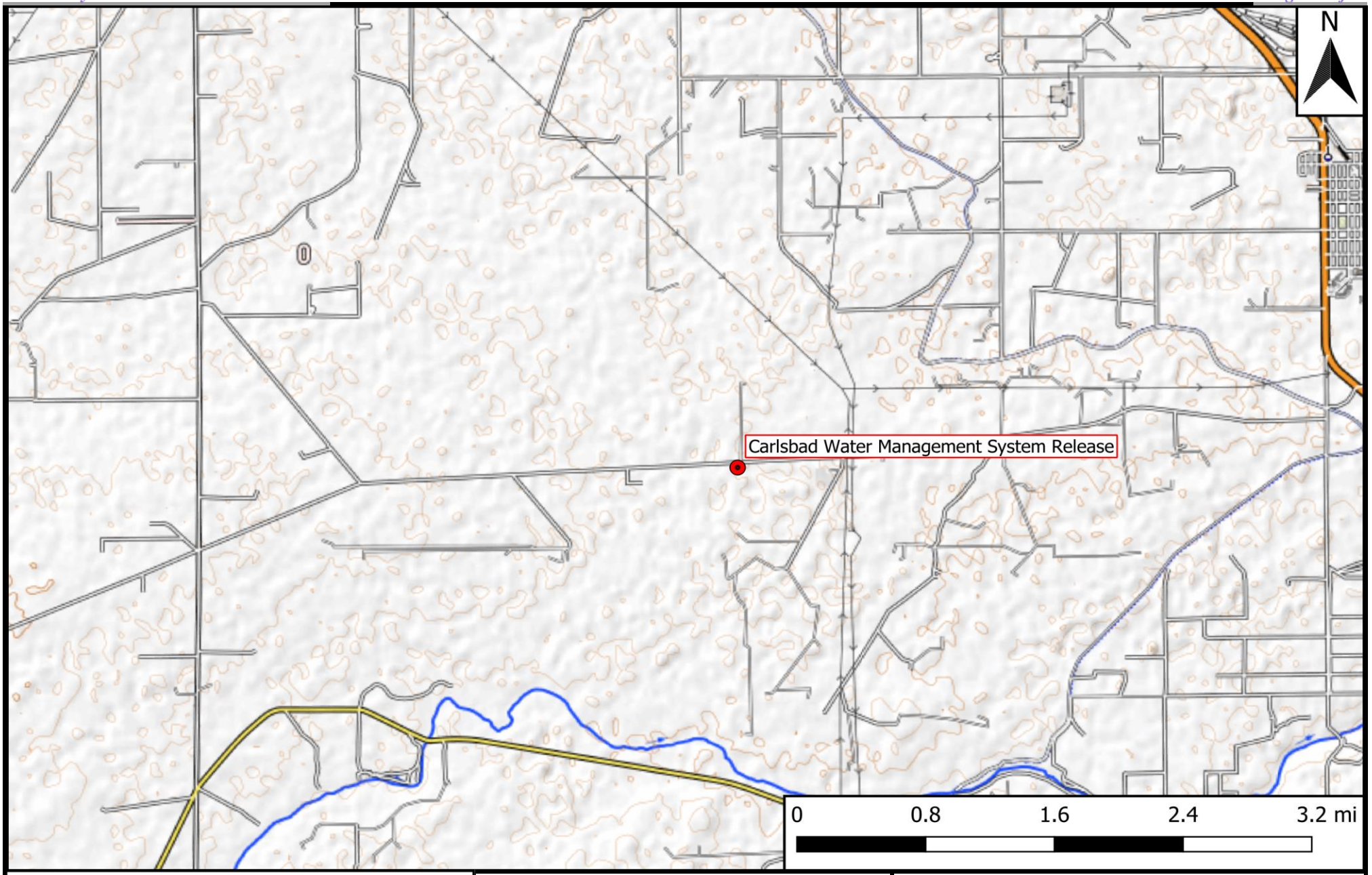
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 2
811 S. First Street
Artesia, NM 88210

United States Department of the Interior
Bureau of Land Management

620 E. Greene Street
Carlsbad, NM 88220

(Electronic Submission)

Figure 1
Topographic Map



Legend

Site Location

Figure 1

Topographic Map

Mewbourne Oil Company

Carlsbad Water Management System Release

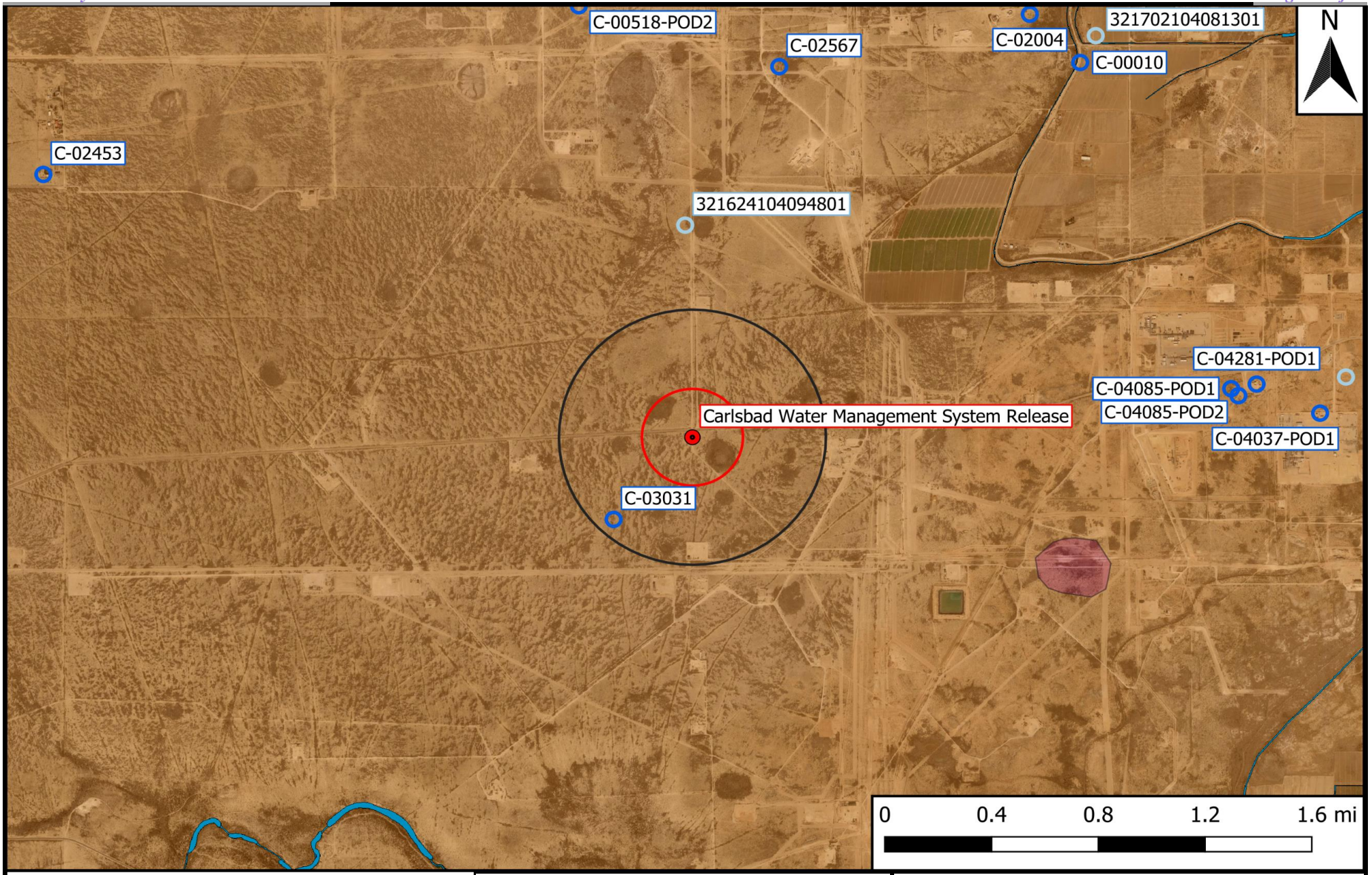
GPS: 32.261438, -104.163478

Eddy County

eTECH Environmental & Safety Solutions, Inc.

Drafted: mag Checked: jwl Date: 10/20/20

Figure 2
Aerial Proximity Map



Legend

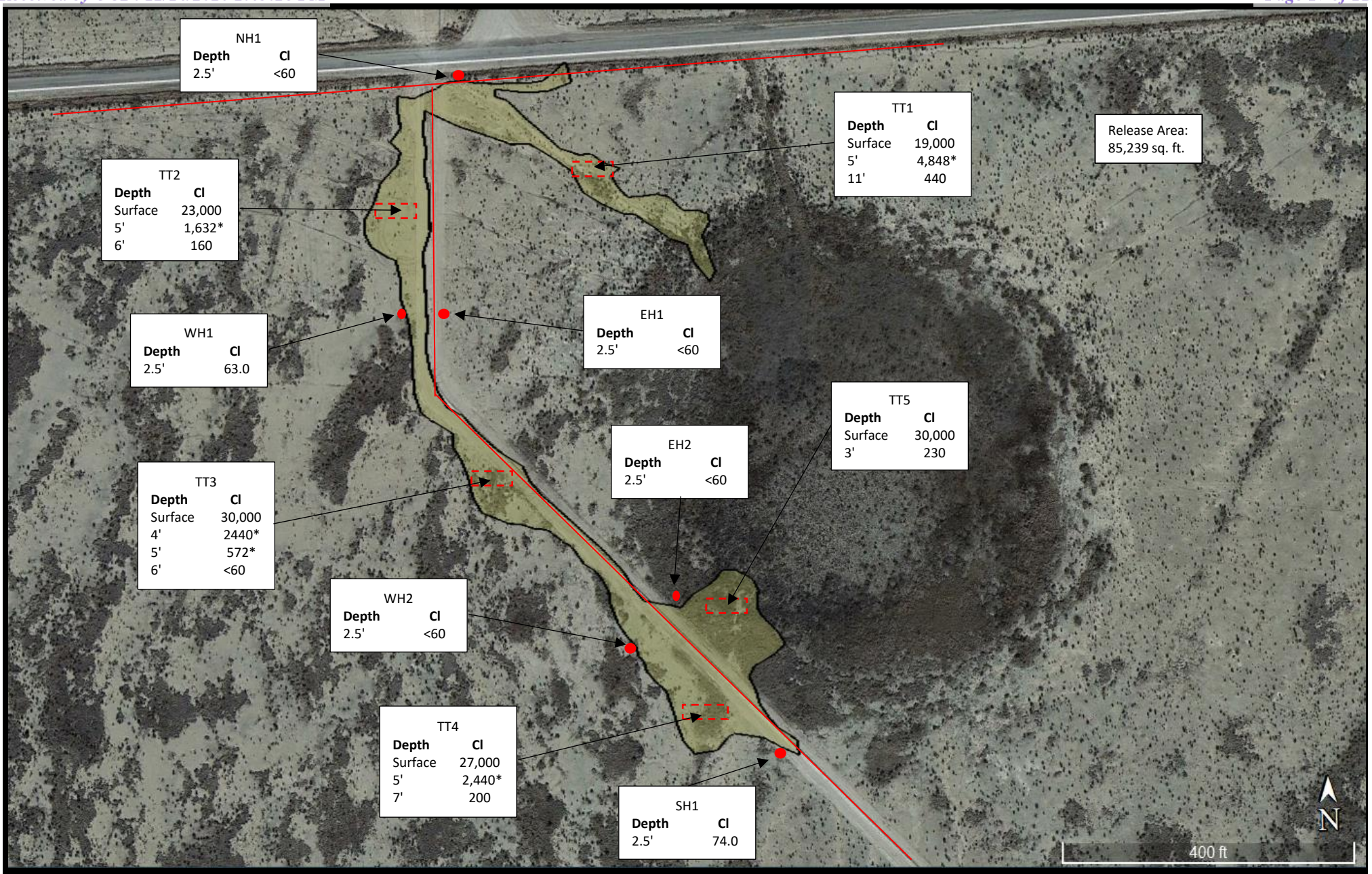
- Site Location
- Well - NMOSE
- Well - USGS
- Medium/High Karst
- Potash Mine Workings
- 0.5 Mi Radius
- 1000 Ft Radius
- 1% Annual Flood Chance
- Lake/Freshwater Pond
- Emergent/Forested Wetlands
- Riverine

Figure 2
Aerial Map
Mewbourne Oil Company
Carlsbad Water Management System Release
GPS: 32.261438, -104.163478
Eddy County

eTECH Environmental & Safety Solutions, Inc.

Drafted: mag Checked: jwl Date: 10/20/20

Figure 3A
Site and Sample Location Map - Delineation



Legend:

- Pipeline
- Release Area
- Test Trench
- Horizontal Sample

* Field test result

Figure 3

Site and Sample Location Map - Delineation

Carlsbad Water Management System Release

Mewbourne Oil Company

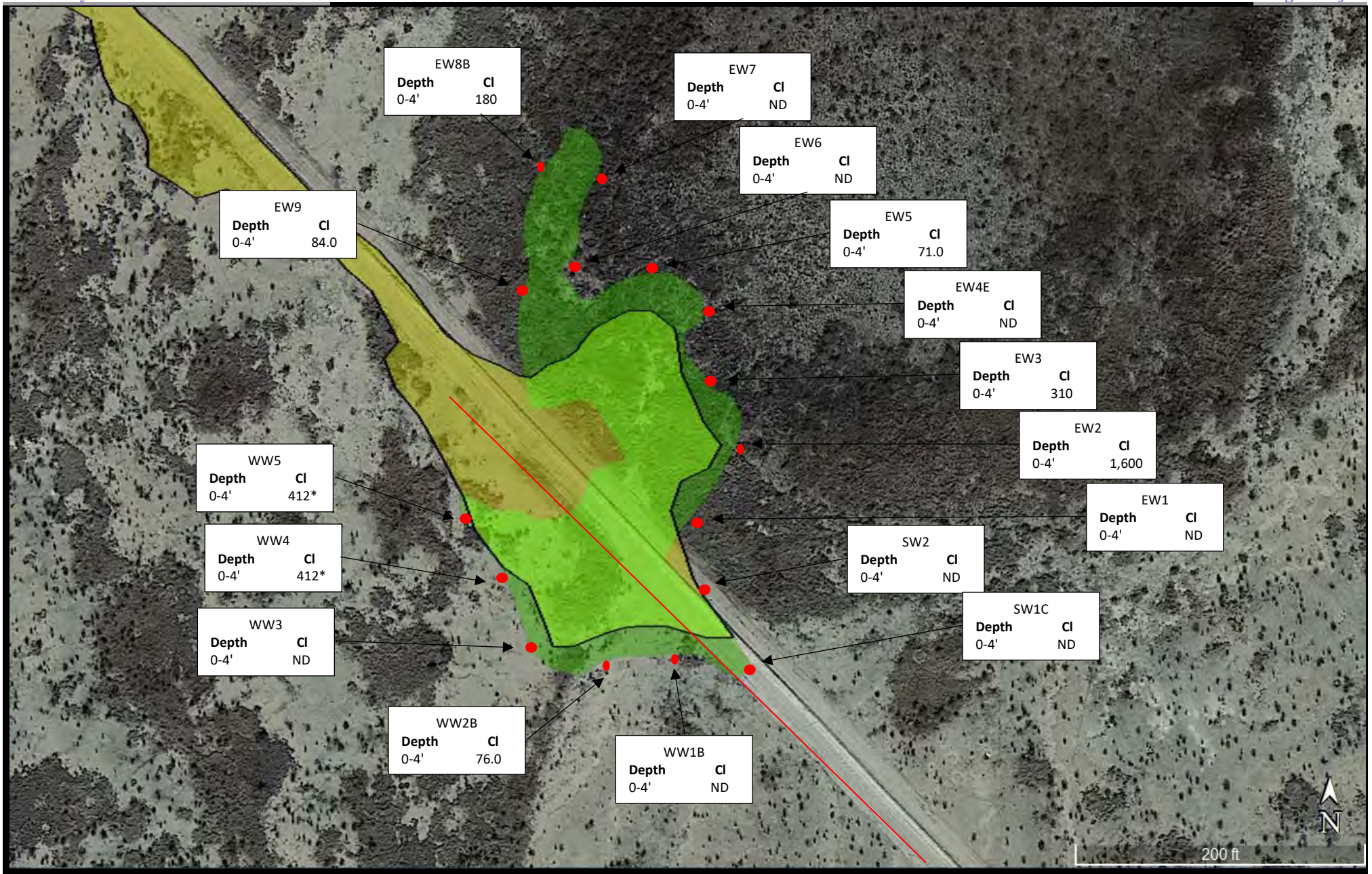
GPS: 32.261438, -104.163478

Eddy County

eTECH Environmental & Safety Solutions, Inc.

Drafted: bja Checked: jwl Date: 11/19/20

Figure 3B
Site and Sample Location Map - Excavation



Legend:

- Pipeline
- Initial Release Area
- Excavated Area
- Confirmation Samples

* Field test result

Figure 3B
Site & Sample Location Map - Excavation
Carlsbad Water Management System Release
Mewbourne Oil Company
GPS: 32.261438, -104.163478
Eddy County

eTECH Environmental & Safety Solutions, Inc.

Drafted: bja Checked: jwl Date: 11/25/20

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
Carlsbad Water Management System
NMOCD Ref. #: nRM2030230289

NMOCD Closure Criteria				**10**	**50**	**-**	**-**	**1,000**	**-**	**2,500**	**10,000**
NMOCD Reclamation Standard				**10**	**50**	**-**	**-**	**-**	**-**	**100**	**600**
				SW 846 8021B		**SW 846 8015M Ext.**					**4500 Cl**
Sample ID	**Date**	**Depth**	**Soil Status**	**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)**
TT1 @ Surface	11/9/2020	Surface	Excavated	ND	ND	ND	660	660	630	1,290	**19,000**
TT1 @ 11'	11/9/2020	11'	In-Situ	ND	ND	ND	ND	ND	ND	ND	440
TT2 @ Surface	11/9/2020	Surface	Excavated	ND	ND	ND	16.0	16.0	ND	16.0	**23,000**
TT2 @6'	11/9/2020	6'	In-Situ	ND	ND	ND	ND	ND	ND	ND	160
TT3 @ Surface	11/9/2020	Surface	In-Situ	ND	ND	ND	780	780	440	1,220	**30,000**
TT3 @6'	11/9/2020	6'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
TT4 @ Surface	11/9/2020	Surface	In-Situ	ND	ND	6.80	34.0	40.8	ND	40.8	**27,000**
TT4 @7'	11/9/2020	7'	In-Situ	ND	ND	ND	ND	ND	ND	ND	200
TT5 @ Surface	11/9/2020	Surface	In-Situ	ND	ND	ND	9.70	9.70	ND	9.70	**30,000**
TT5 @3'	11/9/2020	3'	In-Situ	ND	ND	ND	ND	ND	ND	ND	230
SH1 @ 2.5'	11/9/2020	2.5'	In-Situ	ND	ND	ND	ND	ND	ND	ND	74.0
NH1 @ 2.5'	11/9/2020	2.5'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
EH1 @ 2.5'	11/9/2020	2.5'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
EH2 @ 2.5'	11/9/2020	2.5'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
WH1 @ 2.5'	11/9/2020	2.5'	In-Situ	ND	ND	ND	ND	ND	ND	ND	63.0
WH2 @ 2.5'	11/9/2020	2.5'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
EW1	11/10/2020	0' - 4'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
EW2	11/10/2020	0' - 4'	In-Situ	ND	ND	ND	ND	ND	ND	ND	1,600
EW3	11/10/2020	0' - 4'	In-Situ	ND	ND	ND	ND	ND	ND	ND	310
EW5	11/10/2020	0' - 4'	In-Situ	ND	ND	ND	ND	ND	ND	ND	71.0
EW6	11/10/2020	0' - 4'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
EW7	11/10/2020	0' - 4'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
EW9	11/10/2020	0' - 4'	In-Situ	ND	ND	ND	ND	ND	ND	ND	84.0
EW4 E	11/11/2020	0' - 4'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
EW8 B	11/11/2020	0' - 4'	In-Situ	ND	ND	ND	ND	ND	ND	ND	180
SW1 C	11/12/2020	0' - 4'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
SW2	11/16/2020	0' - 4'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
WW1 B	11/16/2020	0' - 4'	In-Situ	ND	ND	ND	ND	ND	ND	ND	ND
WW2 B	11/16/2020	0' - 4'	In-Situ	ND	ND	ND	ND	ND	ND	ND	76.0
WW3	11/16/2020	0' - 4'	In-Situ	ND	ND	ND	11.0	11.0	ND	ND	ND

NOTES:
- = Sample not analyzed for that constituent.
Bold text denotes a concentration that exceeds the NMOCD Closure Criteria

Appendix A
Field Data and Soil Profile Logs

eTECH Environmental & Safety Solutions, Inc.

Sample Log

Date: 11/9/20

Project: CWMS Release

Project Number: 13296 Latitude: 32.261438 Longitude: -104.163478

Sample ID	PID/Odor	Chloride Conc.	GPS
TT1 @ Surface			
TT1 @ 1'			
TT1 @ 2'			
TT1 @ 3'			
TT1 @ 4'		5644	
TT1 @ 5'		4848	
TT1 @ 6'			
TT1 @ 7'			
TT1 @ 8'		>2440	
TT1 @ 9'		1016	
TT1 @ 10'		516	
TT1 @ 11'		464	
TT2 @ Surface			
TT2 @ 1'			
TT2 @ 2'			
TT2 @ 3'			
TT2 @ 4'			
TT2 @ 5'		1632	
TT2 @ 6'		224	
TT3 @ Surface			
TT3 @ 1'			
TT3 @ 2'			
TT3 @ 3'			
TT3 @ 4'		>2440	
TT3 @ 5'		[redacted] 572	
TT3 @ 6'		ND	
TT4 @ Surface			
TT4 @ 1'			
TT4 @ 2'			
TT4 @ 3'			
TT4 @ 4'		>2440	
TT4 @ 5'		>2440	
TT4 @ 6'		748	
TT4 @ 7'		268	
TT5 @ Surface			
TT5 @ 1'			

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

* TT Samples Ran @ Yard

eTECH Environmental & Safety Solutions, Inc.

Sample Log

Date: 11/9/20

Project: CWMS Release

Project Number: 13296 Latitude: 32.261438 Longitude: -104.163478

Sample ID	PID/Odor	Chloride Conc.	GPS
TT 5 @ 2'	–		
TT 5 @ 3'	–	572	
[redacted]	–		
[redacted]	–		
[redacted]	–		
SH 1 @ 2 ½'	–	120	
EH 2 @ 2 ½'	–	ND 1.4	
WH 2 @ 2 ½'	–	ND 1.4	
WH 1 @ 2 ½'	–	120	
EH 1 @ 2 ½'	–	ND 1.4	
NH 1 @ 2 ½'	–	ND 1.4	
[redacted] Confirmation	Samples		
EW 1	None	148	
EW 2	None	412	
EW 3	None	516	
EW 4	None	1988	
EW 5	None	184	
EW 6	None	224	
EW 7	None	316	
EW 8	None	1340	
EW 9	None	412	
EW 4B	None	876	
FL 1 @ 3'	–	1988	
FL 2 @ 3'	–	1432	
FL 3 @ 3'	–	[redacted] 628	
FL 4 @ 2'	–	876	
FL 5 @ 3'	–	1432	
FL 6 @ 3'	–	1432	
FL 7 @ 3'	–	1340	
FL 8 @ 3'	–	1340	
FL 9 @ 2'	–	1432	
EW [redacted] 8B	–	184	
EW 4B	–	1616	
EW 4C	–	1340	
EW 4D	–	876	
EW 4 [redacted] E	–	364	

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

eTECH Environmental & Safety Solutions, Inc.

Sample Log

Date: 11/12/20

Project: CWMS Release

Project Number: 13296 Latitude: 32.261438 Longitude: -104.163428

Sample ID	PID/Odor	Chloride Conc.	GPS
SW 1C'	none	316	
#6 SW 2	none	<120	
WW 1		>2440	
WW 2		>2440	
FL 1@ 4'		1252	
FL 2@ 4'		>2440	
FL 3@ 4'		1016	
FL 4@ 4'		748	
FL 5@ 4'		572	
FL 6@ 4'		628	
FL 7@ 4'		1016	
FL 8@ 4'		120	
FL 9@ 4'		364	
FL 10@ 3'		148	
FL 11@ 3'		812	
FL 12@ 4'		628	
FL 13@ 4'		>2440	
FL 14@ 4'		1432	
FL 15@ 4'		>2440	
FL 16@ 4'		1252	
FL 17@ 4'		224	
FL 18@ 4'		>2440	
FL 19@ 4		1432	
FL 20@ 4'		316	
WW 1B		<120	
WW 2B		268	
WW 3		184	

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

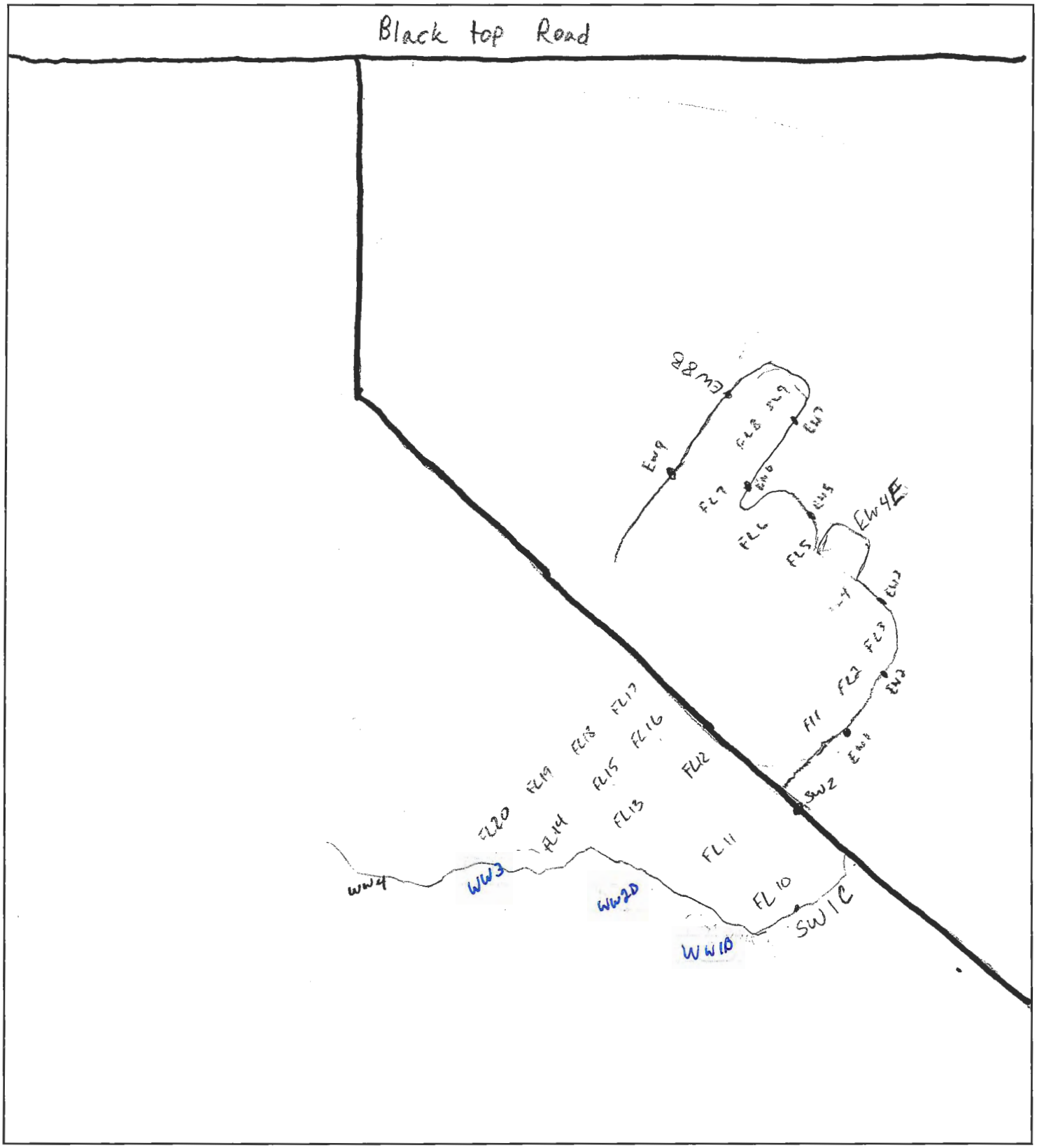
GPS Sample Points, Center of Comp Areas

ETECH Environmental & Safety Solutions, Inc.

Field Map

Project: CWMS Release

Date: 11/10/20



Appendix B
Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

November 17, 2020

Lance Crenshaw

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

RE: CWMS Release OrderNo.: 2011574

Dear Lance Crenshaw:

Hall Environmental Analysis Laboratory received 16 sample(s) on 11/11/2020 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2011574**
Date Reported: **11/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMS Release
Lab ID: 2011574-001 **Matrix:** SOIL

Client Sample ID: TT1 @ Surface
Collection Date: 11/9/2020
Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	19000	1500		mg/Kg	500	11/16/2020 3:06:42 PM	56440
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/12/2020 11:22:47 PM	56378
Surr: BFB	99.7	70-130		%Rec	1	11/12/2020 11:22:47 PM	56378
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	660	98		mg/Kg	10	11/12/2020 11:52:07 PM	56379
Motor Oil Range Organics (MRO)	630	490		mg/Kg	10	11/12/2020 11:52:07 PM	56379
Surr: DNOP	0	30.4-154	S	%Rec	10	11/12/2020 11:52:07 PM	56379
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.023		mg/Kg	1	11/12/2020 11:22:47 PM	56378
Toluene	ND	0.046		mg/Kg	1	11/12/2020 11:22:47 PM	56378
Ethylbenzene	ND	0.046		mg/Kg	1	11/12/2020 11:22:47 PM	56378
Xylenes, Total	ND	0.092		mg/Kg	1	11/12/2020 11:22:47 PM	56378
Surr: 1,2-Dichloroethane-d4	92.4	70-130		%Rec	1	11/12/2020 11:22:47 PM	56378
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	11/12/2020 11:22:47 PM	56378
Surr: Dibromofluoromethane	104	70-130		%Rec	1	11/12/2020 11:22:47 PM	56378
Surr: Toluene-d8	91.3	70-130		%Rec	1	11/12/2020 11:22:47 PM	56378

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

Qualifiers:

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

Analytical Report
Lab Order **2011574**
Date Reported: **11/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMS Release
Lab ID: 2011574-002 **Matrix:** SOIL

Client Sample ID: TT1 @ 11'
Collection Date: 11/9/2020
Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	440	60		mg/Kg	20	11/14/2020 10:16:45 AM	56440
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/12/2020 11:49:56 PM	56378
Surr: BFB	104	70-130		%Rec	1	11/12/2020 11:49:56 PM	56378
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	11/13/2020 12:15:23 AM	56379
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/13/2020 12:15:23 AM	56379
Surr: DNOP	97.1	30.4-154		%Rec	1	11/13/2020 12:15:23 AM	56379
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.023		mg/Kg	1	11/12/2020 11:49:56 PM	56378
Toluene	ND	0.046		mg/Kg	1	11/12/2020 11:49:56 PM	56378
Ethylbenzene	ND	0.046		mg/Kg	1	11/12/2020 11:49:56 PM	56378
Xylenes, Total	ND	0.093		mg/Kg	1	11/12/2020 11:49:56 PM	56378
Surr: 1,2-Dichloroethane-d4	92.0	70-130		%Rec	1	11/12/2020 11:49:56 PM	56378
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	11/12/2020 11:49:56 PM	56378
Surr: Dibromofluoromethane	103	70-130		%Rec	1	11/12/2020 11:49:56 PM	56378
Surr: Toluene-d8	90.5	70-130		%Rec	1	11/12/2020 11:49:56 PM	56378

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

Qualifiers:

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

Analytical Report
Lab Order **2011574**
Date Reported: **11/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMS Release
Lab ID: 2011574-003 **Matrix:** SOIL

Client Sample ID: TT2 @ Surface
Collection Date: 11/9/2020
Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	23000	1500		mg/Kg	500	11/16/2020 3:19:06 PM	56440
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/13/2020 12:17:06 AM	56378
Surr: BFB	101	70-130		%Rec	1	11/13/2020 12:17:06 AM	56378
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	16	9.9		mg/Kg	1	11/13/2020 12:38:37 AM	56379
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/13/2020 12:38:37 AM	56379
Surr: DNOP	98.0	30.4-154		%Rec	1	11/13/2020 12:38:37 AM	56379
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	11/13/2020 12:17:06 AM	56378
Toluene	ND	0.049		mg/Kg	1	11/13/2020 12:17:06 AM	56378
Ethylbenzene	ND	0.049		mg/Kg	1	11/13/2020 12:17:06 AM	56378
Xylenes, Total	ND	0.099		mg/Kg	1	11/13/2020 12:17:06 AM	56378
Surr: 1,2-Dichloroethane-d4	92.4	70-130		%Rec	1	11/13/2020 12:17:06 AM	56378
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	11/13/2020 12:17:06 AM	56378
Surr: Dibromofluoromethane	101	70-130		%Rec	1	11/13/2020 12:17:06 AM	56378
Surr: Toluene-d8	89.7	70-130		%Rec	1	11/13/2020 12:17:06 AM	56378

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

Qualifiers:

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

Analytical Report
Lab Order **2011574**
Date Reported: **11/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMS Release
Lab ID: 2011574-004 **Matrix:** SOIL

Client Sample ID: TT2 @ 6'
Collection Date: 11/9/2020
Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	160	60		mg/Kg	20	11/14/2020 11:06:08 AM	56440
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/13/2020 3:26:48 AM	56378
Surr: BFB	94.9	70-130		%Rec	1	11/13/2020 3:26:48 AM	56378
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	11/13/2020 1:02:01 AM	56379
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/13/2020 1:02:01 AM	56379
Surr: DNOP	101	30.4-154		%Rec	1	11/13/2020 1:02:01 AM	56379
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.023		mg/Kg	1	11/13/2020 3:26:48 AM	56378
Toluene	ND	0.047		mg/Kg	1	11/13/2020 3:26:48 AM	56378
Ethylbenzene	ND	0.047		mg/Kg	1	11/13/2020 3:26:48 AM	56378
Xylenes, Total	ND	0.093		mg/Kg	1	11/13/2020 3:26:48 AM	56378
Surr: 1,2-Dichloroethane-d4	94.9	70-130		%Rec	1	11/13/2020 3:26:48 AM	56378
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	11/13/2020 3:26:48 AM	56378
Surr: Dibromofluoromethane	107	70-130		%Rec	1	11/13/2020 3:26:48 AM	56378
Surr: Toluene-d8	88.0	70-130		%Rec	1	11/13/2020 3:26:48 AM	56378

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

Qualifiers:

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

Analytical Report
Lab Order **2011574**
Date Reported: **11/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMS Release
Lab ID: 2011574-005 **Matrix:** SOIL

Client Sample ID: TT3 @ Surface
Collection Date: 11/9/2020
Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	30000	1500		mg/Kg	500	11/16/2020 3:31:30 PM	56440
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/13/2020 3:53:53 AM	56378
Surr: BFB	100	70-130		%Rec	1	11/13/2020 3:53:53 AM	56378
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	780	9.5		mg/Kg	1	11/13/2020 1:25:18 AM	56379
Motor Oil Range Organics (MRO)	440	47		mg/Kg	1	11/13/2020 1:25:18 AM	56379
Surr: DNOP	109	30.4-154		%Rec	1	11/13/2020 1:25:18 AM	56379
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.024		mg/Kg	1	11/13/2020 3:53:53 AM	56378
Toluene	ND	0.049		mg/Kg	1	11/13/2020 3:53:53 AM	56378
Ethylbenzene	ND	0.049		mg/Kg	1	11/13/2020 3:53:53 AM	56378
Xylenes, Total	ND	0.098		mg/Kg	1	11/13/2020 3:53:53 AM	56378
Surr: 1,2-Dichloroethane-d4	93.8	70-130		%Rec	1	11/13/2020 3:53:53 AM	56378
Surr: 4-Bromofluorobenzene	99.1	70-130		%Rec	1	11/13/2020 3:53:53 AM	56378
Surr: Dibromofluoromethane	106	70-130		%Rec	1	11/13/2020 3:53:53 AM	56378
Surr: Toluene-d8	87.7	70-130		%Rec	1	11/13/2020 3:53:53 AM	56378

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

Qualifiers:

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

Analytical Report
Lab Order **2011574**
Date Reported: **11/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMS Release
Lab ID: 2011574-006 **Matrix:** SOIL

Client Sample ID: TT3 @ 6'
Collection Date: 11/9/2020
Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	11/14/2020 11:55:31 AM	56440
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/13/2020 4:20:58 AM	56378
Surr: BFB	99.8	70-130		%Rec	1	11/13/2020 4:20:58 AM	56378
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	11/13/2020 1:48:32 AM	56379
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/13/2020 1:48:32 AM	56379
Surr: DNOP	111	30.4-154		%Rec	1	11/13/2020 1:48:32 AM	56379
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.024		mg/Kg	1	11/13/2020 4:20:58 AM	56378
Toluene	ND	0.048		mg/Kg	1	11/13/2020 4:20:58 AM	56378
Ethylbenzene	ND	0.048		mg/Kg	1	11/13/2020 4:20:58 AM	56378
Xylenes, Total	ND	0.096		mg/Kg	1	11/13/2020 4:20:58 AM	56378
Surr: 1,2-Dichloroethane-d4	93.0	70-130		%Rec	1	11/13/2020 4:20:58 AM	56378
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	11/13/2020 4:20:58 AM	56378
Surr: Dibromofluoromethane	105	70-130		%Rec	1	11/13/2020 4:20:58 AM	56378
Surr: Toluene-d8	89.4	70-130		%Rec	1	11/13/2020 4:20:58 AM	56378

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

Qualifiers:

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

Analytical Report
Lab Order **2011574**
Date Reported: **11/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMS Release
Lab ID: 2011574-007 **Matrix:** SOIL

Client Sample ID: TT4 @ Surface
Collection Date: 11/9/2020
Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	27000	1500		mg/Kg	500	11/16/2020 3:43:55 PM	56440
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	6.8	4.9		mg/Kg	1	11/13/2020 3:13:40 AM	56381
Surr: BFB	102	70-130		%Rec	1	11/13/2020 3:13:40 AM	56381
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	34	9.5		mg/Kg	1	11/13/2020 5:37:32 AM	56385
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/13/2020 5:37:32 AM	56385
Surr: DNOP	92.1	30.4-154		%Rec	1	11/13/2020 5:37:32 AM	56385
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	11/13/2020 3:13:40 AM	56381
Toluene	ND	0.049		mg/Kg	1	11/13/2020 3:13:40 AM	56381
Ethylbenzene	ND	0.049		mg/Kg	1	11/13/2020 3:13:40 AM	56381
Xylenes, Total	ND	0.099		mg/Kg	1	11/13/2020 3:13:40 AM	56381
Surr: 1,2-Dichloroethane-d4	112	70-130		%Rec	1	11/13/2020 3:13:40 AM	56381
Surr: 4-Bromofluorobenzene	99.9	70-130		%Rec	1	11/13/2020 3:13:40 AM	56381
Surr: Dibromofluoromethane	109	70-130		%Rec	1	11/13/2020 3:13:40 AM	56381
Surr: Toluene-d8	98.1	70-130		%Rec	1	11/13/2020 3:13:40 AM	56381

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

Qualifiers:

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

Analytical Report
Lab Order **2011574**
Date Reported: **11/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMS Release
Lab ID: 2011574-008 **Matrix:** SOIL

Client Sample ID: TT4 @ 7'
Collection Date: 11/9/2020
Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	200	60		mg/Kg	20	11/14/2020 12:20:12 PM	56440
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/13/2020 4:38:44 AM	56381
Surr: BFB	102	70-130		%Rec	1	11/13/2020 4:38:44 AM	56381
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/13/2020 7:13:32 AM	56385
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/13/2020 7:13:32 AM	56385
Surr: DNOP	91.7	30.4-154		%Rec	1	11/13/2020 7:13:32 AM	56385
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	11/13/2020 4:38:44 AM	56381
Toluene	ND	0.050		mg/Kg	1	11/13/2020 4:38:44 AM	56381
Ethylbenzene	ND	0.050		mg/Kg	1	11/13/2020 4:38:44 AM	56381
Xylenes, Total	ND	0.10		mg/Kg	1	11/13/2020 4:38:44 AM	56381
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	11/13/2020 4:38:44 AM	56381
Surr: 4-Bromofluorobenzene	94.7	70-130		%Rec	1	11/13/2020 4:38:44 AM	56381
Surr: Dibromofluoromethane	106	70-130		%Rec	1	11/13/2020 4:38:44 AM	56381
Surr: Toluene-d8	105	70-130		%Rec	1	11/13/2020 4:38:44 AM	56381

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

Qualifiers:

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

Analytical Report
Lab Order **2011574**
Date Reported: **11/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMS Release
Lab ID: 2011574-009 **Matrix:** SOIL

Client Sample ID: TT5 @ Surface
Collection Date: 11/9/2020
Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	30000	1500		mg/Kg	500	11/16/2020 4:21:07 PM	56440
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/13/2020 6:03:53 AM	56381
Surr: BFB	107	70-130		%Rec	1	11/13/2020 6:03:53 AM	56381
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	9.7	9.6		mg/Kg	1	11/13/2020 7:37:38 AM	56385
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/13/2020 7:37:38 AM	56385
Surr: DNOP	107	30.4-154		%Rec	1	11/13/2020 7:37:38 AM	56385
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.024		mg/Kg	1	11/13/2020 6:03:53 AM	56381
Toluene	ND	0.047		mg/Kg	1	11/13/2020 6:03:53 AM	56381
Ethylbenzene	ND	0.047		mg/Kg	1	11/13/2020 6:03:53 AM	56381
Xylenes, Total	ND	0.095		mg/Kg	1	11/13/2020 6:03:53 AM	56381
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	11/13/2020 6:03:53 AM	56381
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	11/13/2020 6:03:53 AM	56381
Surr: Dibromofluoromethane	109	70-130		%Rec	1	11/13/2020 6:03:53 AM	56381
Surr: Toluene-d8	104	70-130		%Rec	1	11/13/2020 6:03:53 AM	56381

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

Qualifiers:

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

Analytical Report
Lab Order **2011574**
Date Reported: **11/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMS Release
Lab ID: 2011574-010 **Matrix:** SOIL

Client Sample ID: TT5 @ 3'
Collection Date: 11/9/2020
Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	230	60		mg/Kg	20	11/14/2020 12:44:56 PM	56440
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/13/2020 6:32:25 AM	56381
Surr: BFB	100	70-130		%Rec	1	11/13/2020 6:32:25 AM	56381
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/13/2020 8:01:21 AM	56385
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/13/2020 8:01:21 AM	56385
Surr: DNOP	84.3	30.4-154		%Rec	1	11/13/2020 8:01:21 AM	56385
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.024		mg/Kg	1	11/13/2020 6:32:25 AM	56381
Toluene	ND	0.047		mg/Kg	1	11/13/2020 6:32:25 AM	56381
Ethylbenzene	ND	0.047		mg/Kg	1	11/13/2020 6:32:25 AM	56381
Xylenes, Total	ND	0.094		mg/Kg	1	11/13/2020 6:32:25 AM	56381
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	1	11/13/2020 6:32:25 AM	56381
Surr: 4-Bromofluorobenzene	99.1	70-130		%Rec	1	11/13/2020 6:32:25 AM	56381
Surr: Dibromofluoromethane	119	70-130		%Rec	1	11/13/2020 6:32:25 AM	56381
Surr: Toluene-d8	99.2	70-130		%Rec	1	11/13/2020 6:32:25 AM	56381

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

Qualifiers:

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

Analytical Report
Lab Order **2011574**
Date Reported: **11/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMS Release
Lab ID: 2011574-011 **Matrix:** SOIL

Client Sample ID: SH1 @ 2.5'
Collection Date: 11/9/2020
Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	74	60		mg/Kg	20	11/14/2020 12:57:17 PM	56440
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/13/2020 11:21:11 AM	56381
Surr: BFB	97.0	70-130		%Rec	1	11/13/2020 11:21:11 AM	56381
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	11/13/2020 8:25:15 AM	56385
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/13/2020 8:25:15 AM	56385
Surr: DNOP	81.7	30.4-154		%Rec	1	11/13/2020 8:25:15 AM	56385
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.024		mg/Kg	1	11/13/2020 11:21:11 AM	56381
Toluene	ND	0.047		mg/Kg	1	11/13/2020 11:21:11 AM	56381
Ethylbenzene	ND	0.047		mg/Kg	1	11/13/2020 11:21:11 AM	56381
Xylenes, Total	ND	0.094		mg/Kg	1	11/13/2020 11:21:11 AM	56381
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	11/13/2020 11:21:11 AM	56381
Surr: 4-Bromofluorobenzene	95.2	70-130		%Rec	1	11/13/2020 11:21:11 AM	56381
Surr: Dibromofluoromethane	118	70-130		%Rec	1	11/13/2020 11:21:11 AM	56381
Surr: Toluene-d8	97.8	70-130		%Rec	1	11/13/2020 11:21:11 AM	56381

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

Qualifiers:

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

Analytical Report
Lab Order **2011574**
Date Reported: **11/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMS Release
Lab ID: 2011574-012 **Matrix:** SOIL

Client Sample ID: NH1 @ 2.5'
Collection Date: 11/9/2020
Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	11/14/2020 1:09:38 PM	56440
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/13/2020 11:49:32 AM	56381
Surr: BFB	102	70-130		%Rec	1	11/13/2020 11:49:32 AM	56381
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	11/13/2020 8:49:07 AM	56385
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/13/2020 8:49:07 AM	56385
Surr: DNOP	63.0	30.4-154		%Rec	1	11/13/2020 8:49:07 AM	56385
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.024		mg/Kg	1	11/13/2020 11:49:32 AM	56381
Toluene	ND	0.047		mg/Kg	1	11/13/2020 11:49:32 AM	56381
Ethylbenzene	ND	0.047		mg/Kg	1	11/13/2020 11:49:32 AM	56381
Xylenes, Total	ND	0.095		mg/Kg	1	11/13/2020 11:49:32 AM	56381
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	11/13/2020 11:49:32 AM	56381
Surr: 4-Bromofluorobenzene	99.0	70-130		%Rec	1	11/13/2020 11:49:32 AM	56381
Surr: Dibromofluoromethane	106	70-130		%Rec	1	11/13/2020 11:49:32 AM	56381
Surr: Toluene-d8	95.1	70-130		%Rec	1	11/13/2020 11:49:32 AM	56381

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

Qualifiers:

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

Analytical Report
Lab Order **2011574**
Date Reported: **11/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMS Release
Lab ID: 2011574-013 **Matrix:** SOIL

Client Sample ID: EH1 @ 2.5'
Collection Date: 11/9/2020
Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	11/14/2020 1:21:58 PM	56440
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/13/2020 12:17:58 PM	56381
Surr: BFB	100	70-130		%Rec	1	11/13/2020 12:17:58 PM	56381
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/13/2020 9:13:06 AM	56385
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/13/2020 9:13:06 AM	56385
Surr: DNOP	39.4	30.4-154		%Rec	1	11/13/2020 9:13:06 AM	56385
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	11/13/2020 12:17:58 PM	56381
Toluene	ND	0.050		mg/Kg	1	11/13/2020 12:17:58 PM	56381
Ethylbenzene	ND	0.050		mg/Kg	1	11/13/2020 12:17:58 PM	56381
Xylenes, Total	ND	0.10		mg/Kg	1	11/13/2020 12:17:58 PM	56381
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	11/13/2020 12:17:58 PM	56381
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	11/13/2020 12:17:58 PM	56381
Surr: Dibromofluoromethane	110	70-130		%Rec	1	11/13/2020 12:17:58 PM	56381
Surr: Toluene-d8	102	70-130		%Rec	1	11/13/2020 12:17:58 PM	56381

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

Qualifiers:

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

Analytical Report
Lab Order **2011574**
Date Reported: **11/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMS Release
Lab ID: 2011574-014 **Matrix:** SOIL

Client Sample ID: EH2 @ 2.5'
Collection Date: 11/9/2020
Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	11/14/2020 1:34:19 PM	56440
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/13/2020 12:46:25 PM	56381
Surr: BFB	101	70-130		%Rec	1	11/13/2020 12:46:25 PM	56381
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	11/13/2020 9:37:03 AM	56385
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/13/2020 9:37:03 AM	56385
Surr: DNOP	50.5	30.4-154		%Rec	1	11/13/2020 9:37:03 AM	56385
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.024		mg/Kg	1	11/13/2020 12:46:25 PM	56381
Toluene	ND	0.049		mg/Kg	1	11/13/2020 12:46:25 PM	56381
Ethylbenzene	ND	0.049		mg/Kg	1	11/13/2020 12:46:25 PM	56381
Xylenes, Total	ND	0.098		mg/Kg	1	11/13/2020 12:46:25 PM	56381
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	11/13/2020 12:46:25 PM	56381
Surr: 4-Bromofluorobenzene	95.4	70-130		%Rec	1	11/13/2020 12:46:25 PM	56381
Surr: Dibromofluoromethane	107	70-130		%Rec	1	11/13/2020 12:46:25 PM	56381
Surr: Toluene-d8	102	70-130		%Rec	1	11/13/2020 12:46:25 PM	56381

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

Qualifiers:

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

Analytical Report
Lab Order **2011574**
Date Reported: **11/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMS Release
Lab ID: 2011574-015 **Matrix:** SOIL

Client Sample ID: WH1 @ 2.5'
Collection Date: 11/9/2020
Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	63	60		mg/Kg	20	11/14/2020 2:11:21 PM	56440
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/13/2020 1:14:55 PM	56381
Surr: BFB	104	70-130		%Rec	1	11/13/2020 1:14:55 PM	56381
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/13/2020 10:00:58 AM	56385
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/13/2020 10:00:58 AM	56385
Surr: DNOP	37.8	30.4-154		%Rec	1	11/13/2020 10:00:58 AM	56385
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.024		mg/Kg	1	11/13/2020 1:14:55 PM	56381
Toluene	ND	0.049		mg/Kg	1	11/13/2020 1:14:55 PM	56381
Ethylbenzene	ND	0.049		mg/Kg	1	11/13/2020 1:14:55 PM	56381
Xylenes, Total	ND	0.098		mg/Kg	1	11/13/2020 1:14:55 PM	56381
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	11/13/2020 1:14:55 PM	56381
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	11/13/2020 1:14:55 PM	56381
Surr: Dibromofluoromethane	111	70-130		%Rec	1	11/13/2020 1:14:55 PM	56381
Surr: Toluene-d8	102	70-130		%Rec	1	11/13/2020 1:14:55 PM	56381

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

Qualifiers:

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

Analytical Report
Lab Order **2011574**
Date Reported: **11/17/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMS Release
Lab ID: 2011574-016 **Matrix:** SOIL

Client Sample ID: WH2 @ 2.5'
Collection Date: 11/9/2020
Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	11/14/2020 2:23:41 PM	56440
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/13/2020 1:43:33 PM	56381
Surr: BFB	102	70-130		%Rec	1	11/13/2020 1:43:33 PM	56381
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/13/2020 10:24:49 AM	56385
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/13/2020 10:24:49 AM	56385
Surr: DNOP	29.6	30.4-154	S	%Rec	1	11/13/2020 10:24:49 AM	56385
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.023		mg/Kg	1	11/13/2020 1:43:33 PM	56381
Toluene	ND	0.046		mg/Kg	1	11/13/2020 1:43:33 PM	56381
Ethylbenzene	ND	0.046		mg/Kg	1	11/13/2020 1:43:33 PM	56381
Xylenes, Total	ND	0.092		mg/Kg	1	11/13/2020 1:43:33 PM	56381
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	11/13/2020 1:43:33 PM	56381
Surr: 4-Bromofluorobenzene	99.8	70-130		%Rec	1	11/13/2020 1:43:33 PM	56381
Surr: Dibromofluoromethane	111	70-130		%Rec	1	11/13/2020 1:43:33 PM	56381
Surr: Toluene-d8	97.3	70-130		%Rec	1	11/13/2020 1:43:33 PM	56381

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011574**
17-Nov-20

Client: Mewbourne Oil Company
Project: CWMS Release

Sample ID: **MB-56440**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **56440**	RunNo: **73376**							
Prep Date: **11/14/2020**	Analysis Date: **11/14/2020**	SeqNo: **2583230**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-56440**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **56440**	RunNo: **73376**							
Prep Date: **11/14/2020**	Analysis Date: **11/14/2020**	SeqNo: **2583240**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.3	90	110			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011574**
17-Nov-20

Client: Mewbourne Oil Company
Project: CWMS Release

Sample ID: **MB-56364**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **56364**	RunNo: **73311**							
Prep Date: **11/11/2020**	Analysis Date: **11/12/2020**	SeqNo: **2580072**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		107	30.4	154			

Sample ID: **LCS-56364**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **56364**	RunNo: **73311**							
Prep Date: **11/11/2020**	Analysis Date: **11/12/2020**	SeqNo: **2580073**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.2		5.000		104	30.4	154			

Sample ID: **MB-56379**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **56379**	RunNo: **73311**							
Prep Date: **11/11/2020**	Analysis Date: **11/12/2020**	SeqNo: **2580174**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		125	30.4	154			

Sample ID: **LCS-56379**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **56379**	RunNo: **73311**							
Prep Date: **11/11/2020**	Analysis Date: **11/12/2020**	SeqNo: **2580184**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.3	70	130			
Surr: DNOP	5.3		5.000		106	30.4	154			

Sample ID: **2011574-007AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **TT4 @ Surface**	Batch ID: **56385**	RunNo: **73324**							
Prep Date: **11/11/2020**	Analysis Date: **11/13/2020**	SeqNo: **2580666**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	89	9.7	48.69	33.96	112	15	184			
Surr: DNOP	13		14.61		90.1	30.4	154			

Sample ID: **2011574-007AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **TT4 @ Surface**	Batch ID: **56385**	RunNo: **73324**							
Prep Date: **11/11/2020**	Analysis Date: **11/13/2020**	SeqNo: **2580667**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	56	9.8	48.88	33.96	44.7	15	184	45.4	23.9	R

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011574**
17-Nov-20

Client: Mewbourne Oil Company
Project: CWMS Release

Sample ID: **2011574-007AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **TT4 @ Surface** Batch ID: **56385** RunNo: **73324**
Prep Date: **11/11/2020** Analysis Date: **11/13/2020** SeqNo: **2580667** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	14		14.66		95.6	30.4	154	0	0	

Sample ID: **LCS-56385** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **56385** RunNo: **73324**
Prep Date: **11/11/2020** Analysis Date: **11/13/2020** SeqNo: **2580726** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.4	70	130			
Surr: DNOP	3.3		5.000		66.5	30.4	154			

Sample ID: **MB-56385** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **56385** RunNo: **73324**
Prep Date: **11/11/2020** Analysis Date: **11/13/2020** SeqNo: **2580730** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.0		10.00		90.4	30.4	154			

Sample ID: **MB-56424** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **56424** RunNo: **73324**
Prep Date: **11/13/2020** Analysis Date: **11/14/2020** SeqNo: **2582778** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	0		10.00		0	30.4	154			S

Sample ID: **LCS-56424** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **56424** RunNo: **73324**
Prep Date: **11/13/2020** Analysis Date: **11/14/2020** SeqNo: **2582780** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	0		5.000		0	30.4	154			S

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011574**
17-Nov-20

Client: Mewbourne Oil Company
Project: CWMS Release

Sample ID: **mb-56381** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **56381** RunNo: **73317**
Prep Date: **11/11/2020** Analysis Date: **11/13/2020** SeqNo: **2580507** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		107	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.3	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

Sample ID: **lcs-56381** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **56381** RunNo: **73317**
Prep Date: **11/11/2020** Analysis Date: **11/13/2020** SeqNo: **2580521** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	101	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.1	0.050	1.000	0	107	80	120			
Xylenes, Total	3.3	0.10	3.000	0	110	80	120			
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		107	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.8	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.49		0.5000		98.5	70	130			

Sample ID: **2011574-008ams** SampType: **MS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **TT4 @ 7'** Batch ID: **56381** RunNo: **73317**
Prep Date: **11/11/2020** Analysis Date: **11/13/2020** SeqNo: **2580538** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.023	0.9381	0	110	71.1	115			
Toluene	1.1	0.047	0.9381	0	117	79.6	132			
Ethylbenzene	1.1	0.047	0.9381	0	119	83.8	134			
Xylenes, Total	3.6	0.094	2.814	0	127	82.4	132			
Surr: 1,2-Dichloroethane-d4	0.48		0.4690		103	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.4690		96.5	70	130			
Surr: Dibromofluoromethane	0.50		0.4690		106	70	130			
Surr: Toluene-d8	0.47		0.4690		100	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011574**
17-Nov-20

Client: Mewbourne Oil Company
Project: CWMS Release

Sample ID: **2011574-008amsd** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **TT4 @ 7'** Batch ID: **56381** RunNo: **73317**
Prep Date: **11/11/2020** Analysis Date: **11/13/2020** SeqNo: **2580543** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9690	0	110	71.1	115	0	20	
Toluene	1.1	0.048	0.9690	0	114	79.6	132	0	20	
Ethylbenzene	1.1	0.048	0.9690	0	114	83.8	134	0	20	
Xylenes, Total	3.5	0.097	2.907	0	121	82.4	132	0	20	
Surr: 1,2-Dichloroethane-d4	0.53		0.4845		109	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.47		0.4845		96.9	70	130	0	0	
Surr: Dibromofluoromethane	0.52		0.4845		107	70	130	0	0	
Surr: Toluene-d8	0.49		0.4845		101	70	130	0	0	

Sample ID: **mb-56378** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **56378** RunNo: **73322**
Prep Date: **11/11/2020** Analysis Date: **11/12/2020** SeqNo: **2580606** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.7	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		101	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.47		0.5000		94.1	70	130			

Sample ID: **lcs-56378** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **56378** RunNo: **73322**
Prep Date: **11/11/2020** Analysis Date: **11/12/2020** SeqNo: **2580607** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	107	80	120			
Toluene	1.0	0.050	1.000	0	103	80	120			
Ethylbenzene	0.99	0.050	1.000	0	99.4	80	120			
Xylenes, Total	2.9	0.10	3.000	0	98.3	80	120			
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		91.9	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		103	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		100	70	130			
Surr: Toluene-d8	0.47		0.5000		93.5	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011574**
17-Nov-20

Client: Mewbourne Oil Company
Project: CWMS Release

Sample ID: **lcs-56381**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **56381**	RunNo: **73317**							
Prep Date: **11/11/2020**	Analysis Date: **11/12/2020**	SeqNo: **2580574**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.7	70	130			
Surr: BFB	520		500.0		104	70	130			

Sample ID: **2011574-007ams**	SampType: **MS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**							
Client ID: **TT4 @ Surface**	Batch ID: **56381**	RunNo: **73317**							
Prep Date: **11/11/2020**	Analysis Date: **11/13/2020**	SeqNo: **2580576**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.7	23.58	6.844	93.3	49.2	122			
Surr: BFB	470		471.7		101	70	130			

Sample ID: **2011574-007amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D Mod: Gasoline Range**							
Client ID: **TT4 @ Surface**	Batch ID: **56381**	RunNo: **73317**							
Prep Date: **11/11/2020**	Analysis Date: **11/13/2020**	SeqNo: **2580577**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	35	4.8	23.97	6.844	116	49.2	122	18.6	20	
Surr: BFB	510		479.4		106	70	130	0	0	

Sample ID: **mb-56381**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**							
Client ID: **PBS**	Batch ID: **56381**	RunNo: **73317**							
Prep Date: **11/11/2020**	Analysis Date: **11/13/2020**	SeqNo: **2580581**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	520		500.0		104	70	130			

Sample ID: **mb-56378**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**							
Client ID: **PBS**	Batch ID: **56378**	RunNo: **73322**							
Prep Date: **11/11/2020**	Analysis Date: **11/12/2020**	SeqNo: **2580707**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	510		500.0		101	70	130			

Sample ID: **lcs-56378**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **56378**	RunNo: **73322**							
Prep Date: **11/11/2020**	Analysis Date: **11/12/2020**	SeqNo: **2580722**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011574**
17-Nov-20

Client: Mewbourne Oil Company
Project: CWMS Release

Sample ID: **lcs-56378** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **56378** RunNo: **73322**
Prep Date: **11/11/2020** Analysis Date: **11/12/2020** SeqNo: **2580722** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	25.00	0	81.4	70	130			
Surr: BFB	500		500.0		100	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **2011574** RcptNo: **1**

Received By: **Juan Rojas** **11/11/2020 8:50:00 AM**

Completed By: **Emily Mocho** **11/11/2020 9:27:15 AM**

Reviewed By: 11/11/20

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° 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 ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: JR 11/11/20

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			
2	2.3	Good	Yes			
3	3.6	Good	Yes			
4	1.3	Good	Yes			

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **2011574** RcptNo: 1

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
5	3.7	Good	Yes			

Chain-of-Custody Record

Client: Mewbourne Oil Company

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other_____
☐ EDD (Type) _____

Turn-Around Time: 5 Day
X Standard Rush

Project Name:
CWMS Release

Project #:
13296

Project Manager:
Lance Crenshaw

Sampler: Leonel Mojica
On Ice: ☑ Yes ☐ No
# of Coolers: 5
Cooler Temp(including CF): See Checklist

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2011574	TPH:8015D(GRO / DRO / MRO)	BTEX / MTBE / TMB's (8021)	Cl-
11/9/20		Soil	TT1 @ Surface	Jar - 1	Ice/Cool	001	X	X	X
11/9/20		Soil	TT1 @ 11'	Jar - 1	Ice/Cool	002	X	X	X
11/9/20		Soil	TT2 @ Surface	Jar - 1	Ice/Cool	003	X	X	X
11/9/20		Soil	TT2 @ 6'	Jar - 1	Ice/Cool	004	X	X	X
11/9/20		Soil	TT3 @ Surface	Jar - 1	Ice/Cool	005	X	X	X
11/9/20		Soil	TT3 @ 6'	Jar - 1	Ice/Cool	006	X	X	X
11/9/20		Soil	TT4 @ Surface	Jar - 1	Ice/Cool	007	X	X	X
11/9/20		Soil	TT4 @ 7'	Jar - 1	Ice/Cool	008	X	X	X
11/9/20		Soil	TT5 @ Surface	Jar - 1	Ice/Cool	009	X	X	X
11/9/20		Soil	TT5 @ 3'	Jar - 1	Ice/Cool	010	X	X	X
11/9/20		Soil	SH1 @ 2.5'	Jar - 1	Ice/Cool	011	X	X	X
11/9/20		Soil	NH1 @ 2.5'	Jar - 1	Ice/Cool	012	X	X	X

Analysis Request

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
11/10	1200				11/10/20	1200
11/10/20	1900			courier	11/11/20	8:50

Remarks: Email results to: rrunnels@mewbourne.com and pm@etechenv.com.

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

Chain-of-Custody Record

Client: Mewbourne Oil Company

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 Day
X Standard Rush

Project Name: CWMS Release

Project #: 13296

Project Manager: Lance Crenshaw

Sampler: Leonel Mojica

On Ice: ☑ Yes ☐ No

# of Coolers: 5

Cooler Temp(including CF): See Check List

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2011574	TPH:8015D(GRO / DRO / MRO)	BTEX / MTBE / TMB's (8021)	Cl-
11/9/20		Soil	EH1 @ 2.5'	Jar - 1	Ice/Cool	013	X	X	X
11/9/20		Soil	EH2 @ 2.5'	Jar - 1	Ice/Cool	014	X	X	X
11/9/20		Soil	WH1 @ 2.5'	Jar - 1	Ice/Cool	015	X	X	X
11/9/20		Soil	WH2 @ 2.5'	Jar - 1	Ice/Cool	016	X	X	X

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
11-10	1200		ACummings		11/10/20	1200
11/10/20	1900	ACummings		courier	11/11/20	8:30

Remarks: Email results to: rrunnels@mewbourne.com and pm@etechenv.com.

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

November 25, 2020

Lance Crenshaw

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

RE: CWMs Release OrderNo.: 2011887

Dear Lance Crenshaw:

Hall Environmental Analysis Laboratory received 14 sample(s) on 11/18/2020 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2011887**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMs Release
Lab ID: 2011887-001 **Matrix:** SOIL

Client Sample ID: EW 1
Collection Date: 11/10/2020
Received Date: 11/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	11/23/2020 8:24:06 PM	56600
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	11/21/2020 11:58:42 AM	56575
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/21/2020 11:58:42 AM	56575
Surr: DNOP	110	30.4-154		%Rec	1	11/21/2020 11:58:42 AM	56575
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/23/2020 9:56:18 AM	56571
Surr: BFB	89.3	75.3-105		%Rec	1	11/23/2020 9:56:18 AM	56571
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/23/2020 9:56:18 AM	56571
Toluene	ND	0.050		mg/Kg	1	11/23/2020 9:56:18 AM	56571
Ethylbenzene	ND	0.050		mg/Kg	1	11/23/2020 9:56:18 AM	56571
Xylenes, Total	ND	0.099		mg/Kg	1	11/23/2020 9:56:18 AM	56571
Surr: 4-Bromofluorobenzene	99.1	80-120		%Rec	1	11/23/2020 9:56:18 AM	56571

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

Qualifiers:

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

Analytical Report
Lab Order **2011887**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMs Release
Lab ID: 2011887-002 **Matrix:** SOIL

Client Sample ID: EW 2
Collection Date: 11/10/2020
Received Date: 11/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	1600	61		mg/Kg	20	11/23/2020 9:01:20 PM	56600
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/21/2020 12:27:47 PM	56575
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/21/2020 12:27:47 PM	56575
Surr: DNOP	102	30.4-154		%Rec	1	11/21/2020 12:27:47 PM	56575
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/23/2020 11:06:36 AM	56571
Surr: BFB	91.5	75.3-105		%Rec	1	11/23/2020 11:06:36 AM	56571
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/23/2020 11:06:36 AM	56571
Toluene	ND	0.049		mg/Kg	1	11/23/2020 11:06:36 AM	56571
Ethylbenzene	ND	0.049		mg/Kg	1	11/23/2020 11:06:36 AM	56571
Xylenes, Total	ND	0.098		mg/Kg	1	11/23/2020 11:06:36 AM	56571
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/23/2020 11:06:36 AM	56571

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

Qualifiers:

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

Analytical Report
Lab Order **2011887**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMs Release
Lab ID: 2011887-003 **Matrix:** SOIL

Client Sample ID: EW 3
Collection Date: 11/10/2020
Received Date: 11/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	310	60		mg/Kg	20	11/23/2020 9:13:45 PM	56600
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	11/21/2020 12:37:31 PM	56575
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/21/2020 12:37:31 PM	56575
Surr: DNOP	94.6	30.4-154		%Rec	1	11/21/2020 12:37:31 PM	56575
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/23/2020 12:17:25 PM	56571
Surr: BFB	90.4	75.3-105		%Rec	1	11/23/2020 12:17:25 PM	56571
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/23/2020 12:17:25 PM	56571
Toluene	ND	0.050		mg/Kg	1	11/23/2020 12:17:25 PM	56571
Ethylbenzene	ND	0.050		mg/Kg	1	11/23/2020 12:17:25 PM	56571
Xylenes, Total	ND	0.10		mg/Kg	1	11/23/2020 12:17:25 PM	56571
Surr: 4-Bromofluorobenzene	99.0	80-120		%Rec	1	11/23/2020 12:17:25 PM	56571

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

Qualifiers:

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

Analytical Report
Lab Order **2011887**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMs Release
Lab ID: 2011887-004 **Matrix:** SOIL

Client Sample ID: EW 5
Collection Date: 11/10/2020
Received Date: 11/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	71	59		mg/Kg	20	11/23/2020 9:26:09 PM	56600
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	11/21/2020 12:47:18 PM	56575
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/21/2020 12:47:18 PM	56575
Surr: DNOP	102	30.4-154		%Rec	1	11/21/2020 12:47:18 PM	56575
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/23/2020 12:40:53 PM	56571
Surr: BFB	90.6	75.3-105		%Rec	1	11/23/2020 12:40:53 PM	56571
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/23/2020 12:40:53 PM	56571
Toluene	ND	0.049		mg/Kg	1	11/23/2020 12:40:53 PM	56571
Ethylbenzene	ND	0.049		mg/Kg	1	11/23/2020 12:40:53 PM	56571
Xylenes, Total	ND	0.099		mg/Kg	1	11/23/2020 12:40:53 PM	56571
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	11/23/2020 12:40:53 PM	56571

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

Qualifiers:

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

Analytical Report
Lab Order **2011887**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMs Release
Lab ID: 2011887-005 **Matrix:** SOIL

Client Sample ID: EW 6
Collection Date: 11/10/2020
Received Date: 11/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	11/23/2020 9:38:34 PM	56600
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/21/2020 12:57:07 PM	56575
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/21/2020 12:57:07 PM	56575
Surr: DNOP	102	30.4-154		%Rec	1	11/21/2020 12:57:07 PM	56575
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/23/2020 1:04:24 PM	56571
Surr: BFB	89.8	75.3-105		%Rec	1	11/23/2020 1:04:24 PM	56571
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/23/2020 1:04:24 PM	56571
Toluene	ND	0.050		mg/Kg	1	11/23/2020 1:04:24 PM	56571
Ethylbenzene	ND	0.050		mg/Kg	1	11/23/2020 1:04:24 PM	56571
Xylenes, Total	ND	0.10		mg/Kg	1	11/23/2020 1:04:24 PM	56571
Surr: 4-Bromofluorobenzene	98.2	80-120		%Rec	1	11/23/2020 1:04:24 PM	56571

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

Qualifiers:

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

Analytical Report
Lab Order **2011887**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMs Release
Lab ID: 2011887-006 **Matrix:** SOIL

Client Sample ID: EW 7
Collection Date: 11/10/2020
Received Date: 11/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	11/23/2020 9:50:58 PM	56600
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/21/2020 1:06:58 PM	56575
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/21/2020 1:06:58 PM	56575
Surr: DNOP	110	30.4-154		%Rec	1	11/21/2020 1:06:58 PM	56575
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/23/2020 1:28:05 PM	56571
Surr: BFB	90.4	75.3-105		%Rec	1	11/23/2020 1:28:05 PM	56571
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/23/2020 1:28:05 PM	56571
Toluene	ND	0.050		mg/Kg	1	11/23/2020 1:28:05 PM	56571
Ethylbenzene	ND	0.050		mg/Kg	1	11/23/2020 1:28:05 PM	56571
Xylenes, Total	ND	0.10		mg/Kg	1	11/23/2020 1:28:05 PM	56571
Surr: 4-Bromofluorobenzene	99.0	80-120		%Rec	1	11/23/2020 1:28:05 PM	56571

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

Qualifiers:

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

Analytical Report
Lab Order **2011887**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMs Release
Lab ID: 2011887-007 **Matrix:** SOIL

Client Sample ID: EW 9
Collection Date: 11/10/2020
Received Date: 11/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	84	59		mg/Kg	20	11/23/2020 10:28:11 PM	56600
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/21/2020 1:16:58 PM	56575
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/21/2020 1:16:58 PM	56575
Surr: DNOP	99.9	30.4-154		%Rec	1	11/21/2020 1:16:58 PM	56575
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/23/2020 1:51:47 PM	56571
Surr: BFB	90.8	75.3-105		%Rec	1	11/23/2020 1:51:47 PM	56571
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/23/2020 1:51:47 PM	56571
Toluene	ND	0.049		mg/Kg	1	11/23/2020 1:51:47 PM	56571
Ethylbenzene	ND	0.049		mg/Kg	1	11/23/2020 1:51:47 PM	56571
Xylenes, Total	ND	0.098		mg/Kg	1	11/23/2020 1:51:47 PM	56571
Surr: 4-Bromofluorobenzene	99.2	80-120		%Rec	1	11/23/2020 1:51:47 PM	56571

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

Qualifiers:

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

Analytical Report
Lab Order **2011887**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMs Release
Lab ID: 2011887-008 **Matrix:** SOIL

Client Sample ID: EW4 E
Collection Date: 11/11/2020
Received Date: 11/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	11/23/2020 10:40:35 PM	56600
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/21/2020 1:26:58 PM	56575
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/21/2020 1:26:58 PM	56575
Surr: DNOP	96.4	30.4-154		%Rec	1	11/21/2020 1:26:58 PM	56575
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/23/2020 2:15:27 PM	56571
Surr: BFB	89.4	75.3-105		%Rec	1	11/23/2020 2:15:27 PM	56571
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/23/2020 2:15:27 PM	56571
Toluene	ND	0.049		mg/Kg	1	11/23/2020 2:15:27 PM	56571
Ethylbenzene	ND	0.049		mg/Kg	1	11/23/2020 2:15:27 PM	56571
Xylenes, Total	ND	0.097		mg/Kg	1	11/23/2020 2:15:27 PM	56571
Surr: 4-Bromofluorobenzene	97.0	80-120		%Rec	1	11/23/2020 2:15:27 PM	56571

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

Qualifiers:

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

Analytical Report
Lab Order **2011887**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMs Release
Lab ID: 2011887-009 **Matrix:** SOIL

Client Sample ID: EW8 B
Collection Date: 11/11/2020
Received Date: 11/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	180	60		mg/Kg	20	11/24/2020 2:36:55 PM	56623
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/21/2020 1:36:59 PM	56575
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/21/2020 1:36:59 PM	56575
Surr: DNOP	77.0	30.4-154		%Rec	1	11/21/2020 1:36:59 PM	56575
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/23/2020 2:38:50 PM	56571
Surr: BFB	90.1	75.3-105		%Rec	1	11/23/2020 2:38:50 PM	56571
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/23/2020 2:38:50 PM	56571
Toluene	ND	0.049		mg/Kg	1	11/23/2020 2:38:50 PM	56571
Ethylbenzene	ND	0.049		mg/Kg	1	11/23/2020 2:38:50 PM	56571
Xylenes, Total	ND	0.099		mg/Kg	1	11/23/2020 2:38:50 PM	56571
Surr: 4-Bromofluorobenzene	98.4	80-120		%Rec	1	11/23/2020 2:38:50 PM	56571

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

Qualifiers:

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

Analytical Report
Lab Order **2011887**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMs Release
Lab ID: 2011887-010 **Matrix:** SOIL

Client Sample ID: SW 1 C
Collection Date: 11/12/2020
Received Date: 11/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	11/24/2020 2:49:20 PM	56623
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/21/2020 1:47:00 PM	56575
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/21/2020 1:47:00 PM	56575
Surr: DNOP	81.3	30.4-154		%Rec	1	11/21/2020 1:47:00 PM	56575
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/23/2020 3:02:09 PM	56571
Surr: BFB	95.3	75.3-105		%Rec	1	11/23/2020 3:02:09 PM	56571
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/23/2020 3:02:09 PM	56571
Toluene	ND	0.049		mg/Kg	1	11/23/2020 3:02:09 PM	56571
Ethylbenzene	ND	0.049		mg/Kg	1	11/23/2020 3:02:09 PM	56571
Xylenes, Total	ND	0.099		mg/Kg	1	11/23/2020 3:02:09 PM	56571
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	11/23/2020 3:02:09 PM	56571

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

Qualifiers:

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

Analytical Report
Lab Order **2011887**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMs Release
Lab ID: 2011887-011 **Matrix:** SOIL

Client Sample ID: SW 2
Collection Date: 11/16/2020
Received Date: 11/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	11/24/2020 3:26:35 PM	56623
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/21/2020 1:57:00 PM	56575
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/21/2020 1:57:00 PM	56575
Surr: DNOP	90.9	30.4-154		%Rec	1	11/21/2020 1:57:00 PM	56575
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/23/2020 4:12:17 PM	56571
Surr: BFB	93.6	75.3-105		%Rec	1	11/23/2020 4:12:17 PM	56571
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/23/2020 4:12:17 PM	56571
Toluene	ND	0.050		mg/Kg	1	11/23/2020 4:12:17 PM	56571
Ethylbenzene	ND	0.050		mg/Kg	1	11/23/2020 4:12:17 PM	56571
Xylenes, Total	ND	0.10		mg/Kg	1	11/23/2020 4:12:17 PM	56571
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	11/23/2020 4:12:17 PM	56571

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

Qualifiers:

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

Analytical Report
Lab Order **2011887**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMs Release
Lab ID: 2011887-012 **Matrix:** SOIL

Client Sample ID: WW 3
Collection Date: 11/16/2020
Received Date: 11/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	61		mg/Kg	20	11/24/2020 3:38:59 PM	56623
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	11	9.4		mg/Kg	1	11/21/2020 2:07:01 PM	56575
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/21/2020 2:07:01 PM	56575
Surr: DNOP	94.9	30.4-154		%Rec	1	11/21/2020 2:07:01 PM	56575
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/23/2020 4:35:39 PM	56571
Surr: BFB	92.1	75.3-105		%Rec	1	11/23/2020 4:35:39 PM	56571
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/23/2020 4:35:39 PM	56571
Toluene	ND	0.049		mg/Kg	1	11/23/2020 4:35:39 PM	56571
Ethylbenzene	ND	0.049		mg/Kg	1	11/23/2020 4:35:39 PM	56571
Xylenes, Total	ND	0.099		mg/Kg	1	11/23/2020 4:35:39 PM	56571
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/23/2020 4:35:39 PM	56571

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

Qualifiers:

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

Analytical Report
Lab Order **2011887**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMs Release
Lab ID: 2011887-013 **Matrix:** SOIL

Client Sample ID: WW 1 B
Collection Date: 11/16/2020
Received Date: 11/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	60		mg/Kg	20	11/24/2020 3:51:25 PM	56623
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/21/2020 2:17:02 PM	56575
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	11/21/2020 2:17:02 PM	56575
Surr: DNOP	95.0	30.4-154		%Rec	1	11/21/2020 2:17:02 PM	56575
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/23/2020 4:58:57 PM	56571
Surr: BFB	93.0	75.3-105		%Rec	1	11/23/2020 4:58:57 PM	56571
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/23/2020 4:58:57 PM	56571
Toluene	ND	0.049		mg/Kg	1	11/23/2020 4:58:57 PM	56571
Ethylbenzene	ND	0.049		mg/Kg	1	11/23/2020 4:58:57 PM	56571
Xylenes, Total	ND	0.098		mg/Kg	1	11/23/2020 4:58:57 PM	56571
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/23/2020 4:58:57 PM	56571

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

Qualifiers:

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

Analytical Report
Lab Order **2011887**
Date Reported: **11/25/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company
Project: CWMs Release
Lab ID: 2011887-014 **Matrix:** SOIL

Client Sample ID: WW 2 B
Collection Date: 11/16/2020
Received Date: 11/18/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	76	60		mg/Kg	20	11/24/2020 4:03:49 PM	56623
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	11/21/2020 2:27:03 PM	56575
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/21/2020 2:27:03 PM	56575
Surr: DNOP	89.7	30.4-154		%Rec	1	11/21/2020 2:27:03 PM	56575
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/23/2020 5:22:16 PM	56571
Surr: BFB	92.8	75.3-105		%Rec	1	11/23/2020 5:22:16 PM	56571
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/23/2020 5:22:16 PM	56571
Toluene	ND	0.049		mg/Kg	1	11/23/2020 5:22:16 PM	56571
Ethylbenzene	ND	0.049		mg/Kg	1	11/23/2020 5:22:16 PM	56571
Xylenes, Total	ND	0.099		mg/Kg	1	11/23/2020 5:22:16 PM	56571
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/23/2020 5:22:16 PM	56571

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011887**
25-Nov-20

Client: Mewbourne Oil Company
Project: CWMs Release

Sample ID: **MB-56600**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **56600**	RunNo: **73569**							
Prep Date: **11/23/2020**	Analysis Date: **11/23/2020**	SeqNo: **2591794**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-56600**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **56600**	RunNo: **73569**							
Prep Date: **11/23/2020**	Analysis Date: **11/23/2020**	SeqNo: **2591795**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.6	90	110			

Sample ID: **MB-56623**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **56623**	RunNo: **73590**							
Prep Date: **11/24/2020**	Analysis Date: **11/24/2020**	SeqNo: **2593314**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-56623**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **56623**	RunNo: **73590**							
Prep Date: **11/24/2020**	Analysis Date: **11/24/2020**	SeqNo: **2593315**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.8	90	110			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011887**
25-Nov-20

Client: Mewbourne Oil Company
Project: CWMs Release

Sample ID: **MB-56575**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **56575**	RunNo: **73544**
Prep Date: **11/20/2020**	Analysis Date: **11/21/2020**	SeqNo: **2590644** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		110	30.4	154			

Sample ID: **LCS-56575**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **56575**	RunNo: **73544**
Prep Date: **11/20/2020**	Analysis Date: **11/21/2020**	SeqNo: **2590647** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	10	50.00	0	118	70	130			
Surr: DNOP	5.0		5.000		101	30.4	154			

Sample ID: **2011887-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **EW 1**	Batch ID: **56575**	RunNo: **73544**
Prep Date: **11/20/2020**	Analysis Date: **11/21/2020**	SeqNo: **2590649** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.6	47.85	3.941	80.2	15	184			
Surr: DNOP	2.7		4.785		56.2	30.4	154			

Sample ID: **2011887-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **EW 1**	Batch ID: **56575**	RunNo: **73544**
Prep Date: **11/20/2020**	Analysis Date: **11/21/2020**	SeqNo: **2590651** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.9	49.36	3.941	84.9	15	184	8.08	23.9	
Surr: DNOP	3.4		4.936		68.8	30.4	154	0	0	

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2011887**
25-Nov-20

Client: Mewbourne Oil Company
Project: CWMs Release

Sample ID: **mb-56571**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **56571**	RunNo: **73565**
Prep Date: **11/20/2020**	Analysis Date: **11/23/2020**	SeqNo: **2591453** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	890		1000		88.8	75.3	105			

Sample ID: **lcs-56571**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **56571**	RunNo: **73565**
Prep Date: **11/20/2020**	Analysis Date: **11/23/2020**	SeqNo: **2591454** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.5	72.5	106			
Surr: BFB	990		1000		99.2	75.3	105			

Sample ID: **2011887-002ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **EW 2**	Batch ID: **56571**	RunNo: **73565**
Prep Date: **11/20/2020**	Analysis Date: **11/23/2020**	SeqNo: **2591457** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	24.90	0	83.6	61.3	114			
Surr: BFB	1000		996.0		101	75.3	105			

Sample ID: **2011887-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **EW 2**	Batch ID: **56571**	RunNo: **73565**
Prep Date: **11/20/2020**	Analysis Date: **11/23/2020**	SeqNo: **2591458** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	24.78	0	88.2	61.3	114	4.81	20	
Surr: BFB	990		991.1		99.9	75.3	105	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2011887**

25-Nov-20

Client: Mewbourne Oil Company

Project: CWMs Release

Sample ID: **mb-56571**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **56571**	RunNo: **73565**
Prep Date: **11/20/2020**	Analysis Date: **11/23/2020**	SeqNo: **2591494** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		98.2	80	120			

Sample ID: **LCS-56571**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **56571**	RunNo: **73565**
Prep Date: **11/20/2020**	Analysis Date: **11/23/2020**	SeqNo: **2591495** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.2	80	120			
Toluene	0.94	0.050	1.000	0	93.5	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.8	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.5	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID: **2011887-001ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **EW 1**	Batch ID: **56571**	RunNo: **73565**
Prep Date: **11/20/2020**	Analysis Date: **11/23/2020**	SeqNo: **2591497** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	0.9990	0	89.3	76.3	120			
Toluene	0.94	0.050	0.9990	0	94.1	78.5	120			
Ethylbenzene	0.95	0.050	0.9990	0	94.9	78.1	124			
Xylenes, Total	2.9	0.10	2.997	0.01645	94.6	79.3	125			
Surr: 4-Bromofluorobenzene	0.98		0.9990		98.3	80	120			

Sample ID: **2011887-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **EW 1**	Batch ID: **56571**	RunNo: **73565**
Prep Date: **11/20/2020**	Analysis Date: **11/23/2020**	SeqNo: **2591498** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.024	0.9775	0	85.9	76.3	120	6.01	20	
Toluene	0.90	0.049	0.9775	0	92.3	78.5	120	4.08	20	
Ethylbenzene	0.91	0.049	0.9775	0	93.4	78.1	124	3.80	20	
Xylenes, Total	2.8	0.098	2.933	0.01645	93.5	79.3	125	3.35	20	
Surr: 4-Bromofluorobenzene	0.97		0.9775		98.8	80	120	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **Mewbourne Oil Company** Work Order Number: **2011887** RcptNo: **1**

Received By: **Emily Mocho** **11/18/2020 8:00:00 AM**

Completed By: **Emily Mocho** **11/18/2020 9:06:03 AM**

Reviewed By: SPA 11.18.20

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° 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: YR 11/18/20

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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.5	Good	Yes			
2	1.3	Good	Yes			

Analyze for 300 hold for 8021, 8015

Chain-of-Custody Record

Client: Mewbourne

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

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

Project Name: CWMS Release

Project #: 13296

Project Manager: Lance Crenshaw
Joel Lowry

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 0.5±0=0.5 (°C) 1.3±0=1.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2011887	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
11/10/20		Soil	EW1	1	Ice	001	X	X					X			
11/10/20		Soil	EW2	1	Ice	002	X	X					X			
11/10/20		Soil	EW3	1	Ice	003	X	X					X			
11/10/20		Soil	EW5	1	Ice	004	X	X					X			
11/10/20		Soil	EW6	1	Ice	005	X	X					X			
11/20/20		Soil	EW7	1	Ice	006	X	X					X			
11/20/20		Soil	EW9	1	Ice	007	X	X					X			
11/11/20		Soil	EW4B	1	Ice	008	X	X					X			
11/11/20		Soil	EW8B	1	Ice	009	X	X					X			
11/12/20		Soil	SW1C	1	Ice	010	X	X					X			
11/16/20		Soil	SW2	1	ICE	011	X	X					X			
11/16/20		Soil	WW3	1	ICE	012	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
11/17	1600				11/17/20	1600
11/17/20	1900		EM	courier	11/18/20	800

Remarks: Email results to pm@etechenv.com Analyze for 300 hold for TPH BTEX

Seal intact

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

Analyze for 300 hold for 8021, 8015

Chain-of-Custody Record

Client: Meridian

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

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

Project Name: CWMS Release

Project #: 13296

Project Manager: Lance Crenshaw
Joel Lowry

Sampler:

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 0.5±0=0.5 (°C)
1.3±0=4.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. ~~201189~~ 201188	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
11/16/20		Soil	WW 1 B	1	ICE	EM ~~001~~ 013	X	X					X			
11/16/20		Soil	WW 2 B	1	ICE	1118h20 ~~002~~ 014	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					11/17/20	1600
Date: 11/17/20	Time: 1900	Relinquished by:	EM	courier	11/18/20	800

Remarks: seal intact
Email results to pm@etechenv.com
Analyze For 300 ONLY
hold for TPH B&X

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

Appendix C
Photographic Log

Photographic Log

Photo Number: 1	
Photo Direction: Southwest	
Photo Description: Produced Water Release	

Photo Number: 2	
Photo Direction: South	
Photo Description: Produced Water Release	

Photographic Log

Photo Number: 3 **Photo Direction:** South-Southwest **Photo Description:** Produced Water Release	

Photo Number: 4 **Photo Direction:** South-Southeast **Photo Description:** Produced Water Release	

Photographic Log

Photo Number: 5 **Photo Direction:** Southeast **Photo Description:** Produced Water Release	

Photo Number: 6 **Photo Direction:** Northwest **Photo Description:** Produced Water Release	

Photographic Log

Photo Number: 7 **Photo Direction:** North **Photo Description:** Produced Water Release	

Photo Number: 8 **Photo Direction:** Northwest **Photo Description:** Produced Water Release	

Photographic Log

Photo Number: 9	
Photo Direction: Northwest	
Photo Description: Produced Water Release	

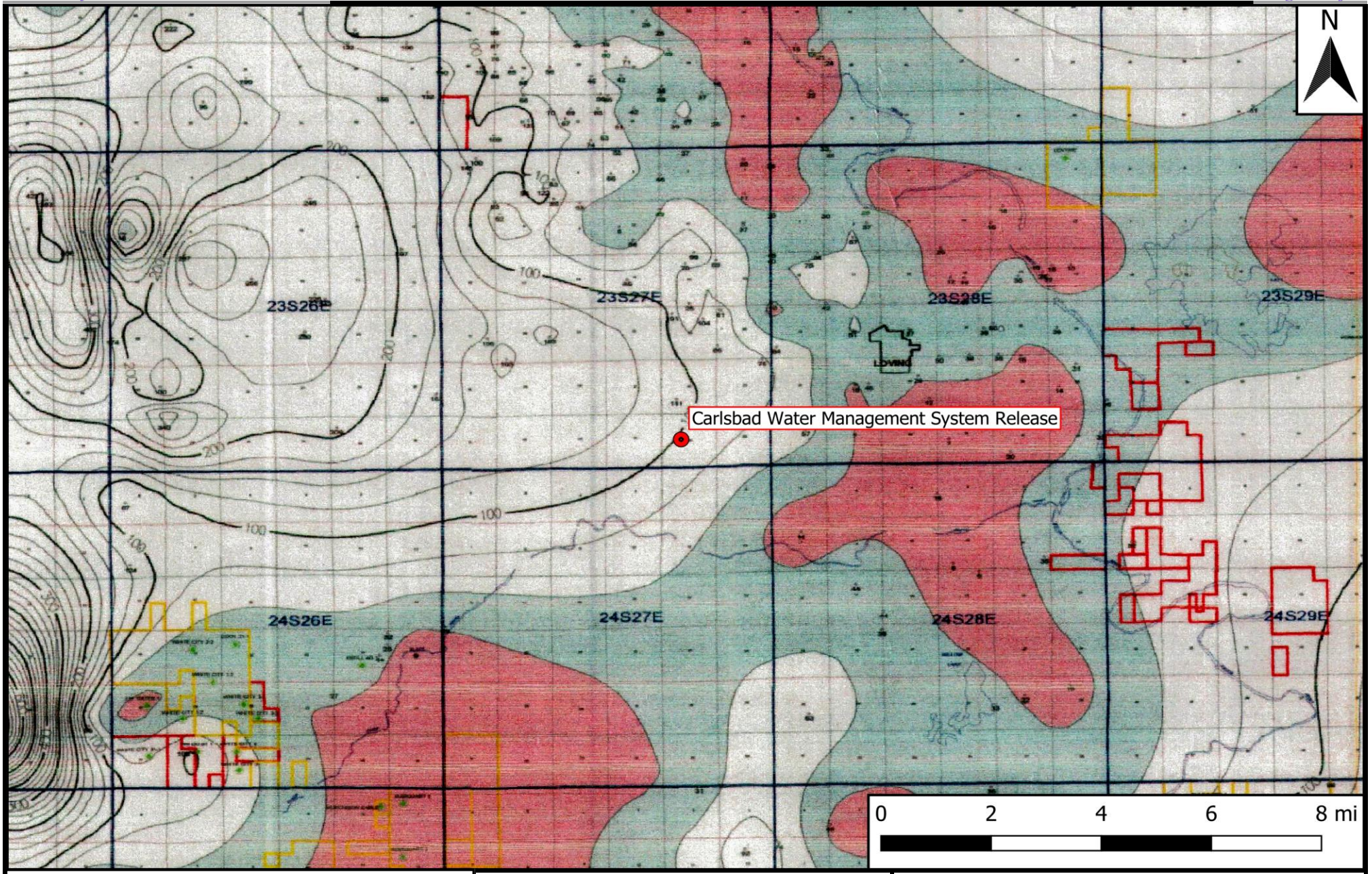
Photo Number: 10	
Photo Direction: Southwest	
Photo Description: Produced Water Release	

Photographic Log

Photo Number: 11 **Photo Direction:** Northwest **Photo Description:** Excavation	

Photo Number: 12 **Photo Direction:** West-Southwest **Photo Description:** Excavation	

Appendix D
Depth to Groundwater Information



Legend

- Site Location

Figure 4

Inferred Depth to Groundwater Trend Map

Mewbourne Oil Company

Carlsbad Water Management System Release

GPS: 32.261438, -104.163478

Eddy County

ETECH Environmental & Safety Solutions, Inc.

Drafted: mag Checked: jwl Date: 10/20/20

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 03031		C	ED	1	3	3	35	23S	27E	578315	3569206*	701	150	67	83

Average Depth to Water: **67 feet**

Minimum Depth: **67 feet**

Maximum Depth: **67 feet**

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 578790.16 **Northing (Y):** 3569721.75 **Radius:** 804.67

***UTM location was derived from PLSS - see Help**

10/20/20 10:16 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	Twn	Rng	X	Y
	C 03031	1	3	3	35	23S	27E	578315	3569206*

Driller License: 685 **Driller Company:** BRAZEAL, JOHN

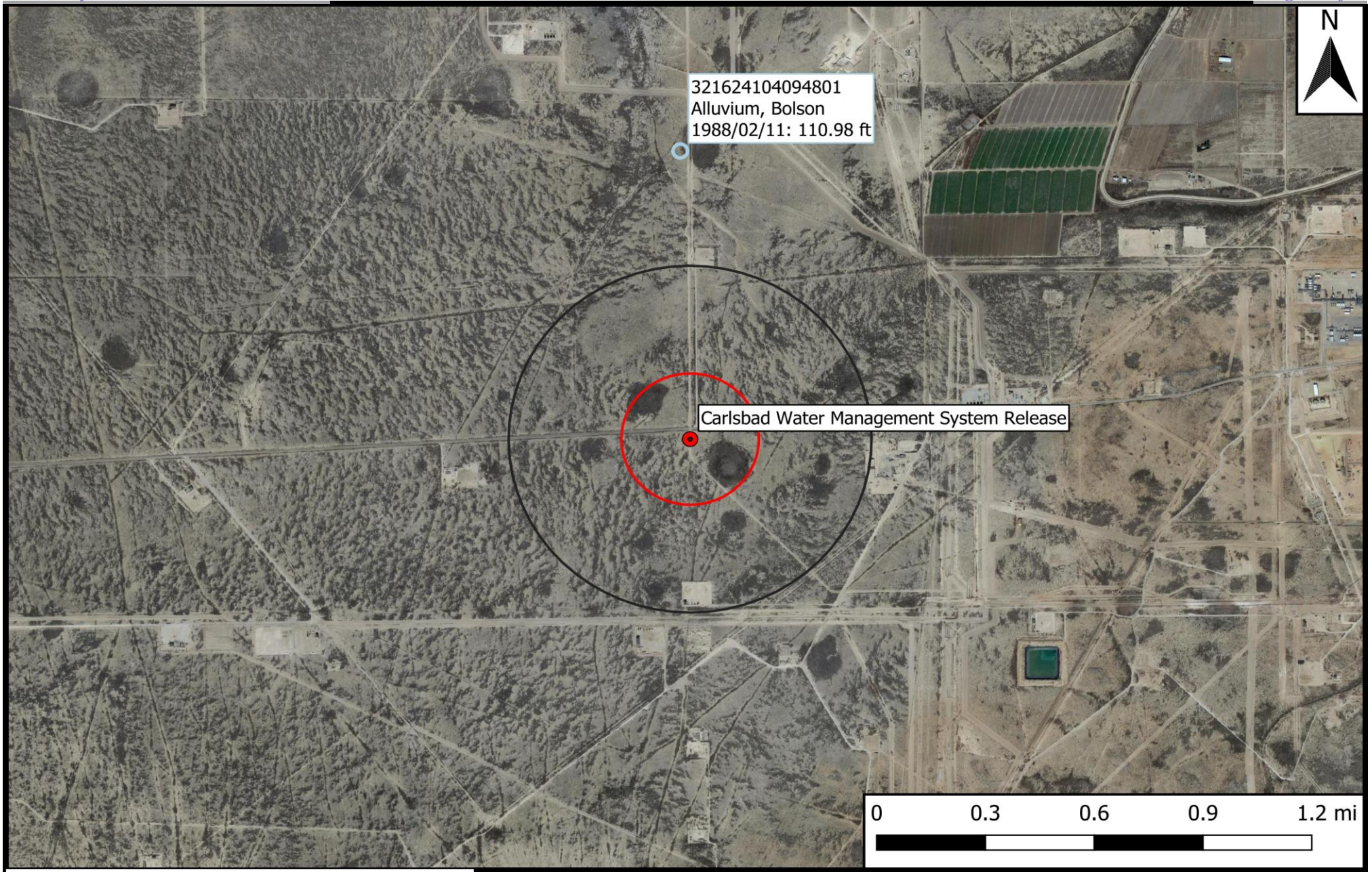
Driller Name: WAYNE BRAZEAL

Drill Start Date:	06/10/2004	**Drill Finish Date:**	06/16/2004	**Plug Date:**	
Log File Date:	06/24/2004	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	50 GPM
Casing Size:	6.00	**Depth Well:**	150 feet	**Depth Water:**	67 feet

Water Bearing Stratifications:	Top	Bottom	Description
	139	150	Other/Unknown

Casing Perforations:	Top	Bottom
	90	150

***UTM location was derived from PLSS - see Help**



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

Figure 5
USGS Well Proximity Map
Mewbourne Oil Company
Carlsbad Water Management System Release
GPS: 32.261438, -104.163478
Eddy County

eTECH Environmental & Safety Solutions, Inc.

Drafted: mag Checked: jwl Date: 10/20/20

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 =
- 321624104094801

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 321624104094801 23S.27E.26.323332

Eddy County, New Mexico
Latitude 32°16'24", Longitude 104°09'48" NAD27
Land-surface elevation 3,139 feet above NAVD88
The depth of the well is 156 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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

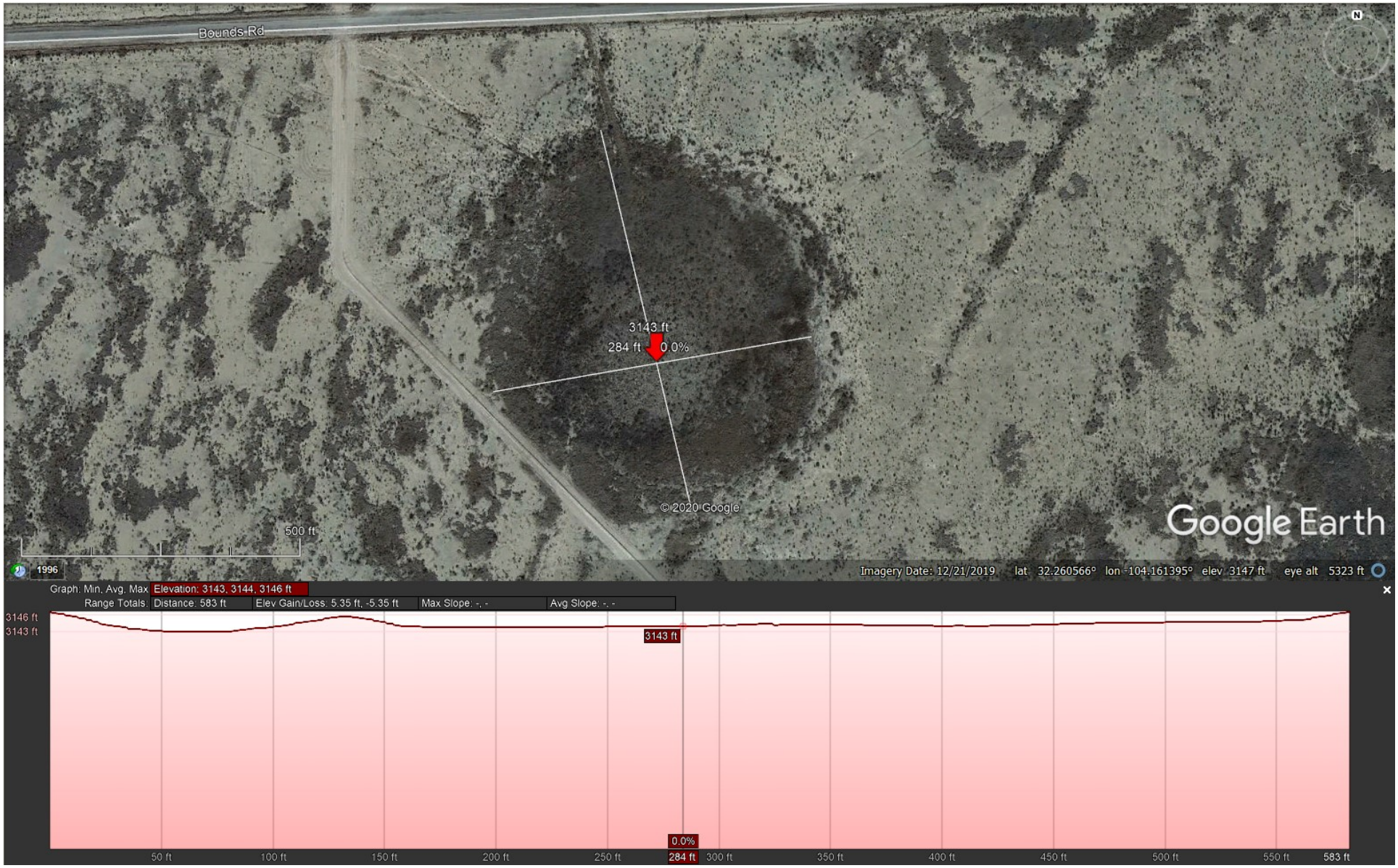
Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Wate level appr statu
1954-02-16		D	107.19			2		U		U	
1955-01-17		D	112.42			2	R	U		U	
1956-01-10		D	108.77			2		U		U	
1957-01-09		D	119.35			2	P	U		U	
1958-01-16		D	104.74			2		U		U	
1959-01-09		D	119.29			2	P	U		U	
1960-01-15		D	104.10			2		U		U	
1961-01-13		D	102.31			2		U		U	
1962-01-19		D	97.86			2		U		U	
1963-01-22		D	102.16			2		U		U	
1964-01-20		D	104.21			2		U		U	
1965-01-14		D	117.68			2	P	U		U	
1966-01-05		D	115.60			2		U		U	
1967-01-19		D	113.96			2		U		U	
1968-01-26		D	112.32			2		U		U	
1969-01-28		D	111.92			2		U		U	
1970-01-20		D	112.49			2		U		U	
1971-01-14		D	120.74			2		U		U	
1972-01-12		D	121.66			2		U		U	
1973-01-05		D	123.34			2		U		U	
1974-01-16		D	121.74			2		U		U	

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	? Wate level appr statu
1975-01-16		D	123.56			2		U		U	
1976-01-13		D	122.91			2		U		U	
1977-01-13		D	125.05			2		U		U	
1978-01-23		D	128.42			2		U		U	
1979-01-18		D	129.94			2		U		U	
1981-05-20		D	126.56			2		U		U	
1983-01-25		D	124.79			2		U		U	
1988-02-11		D	110.98			2		U		U	

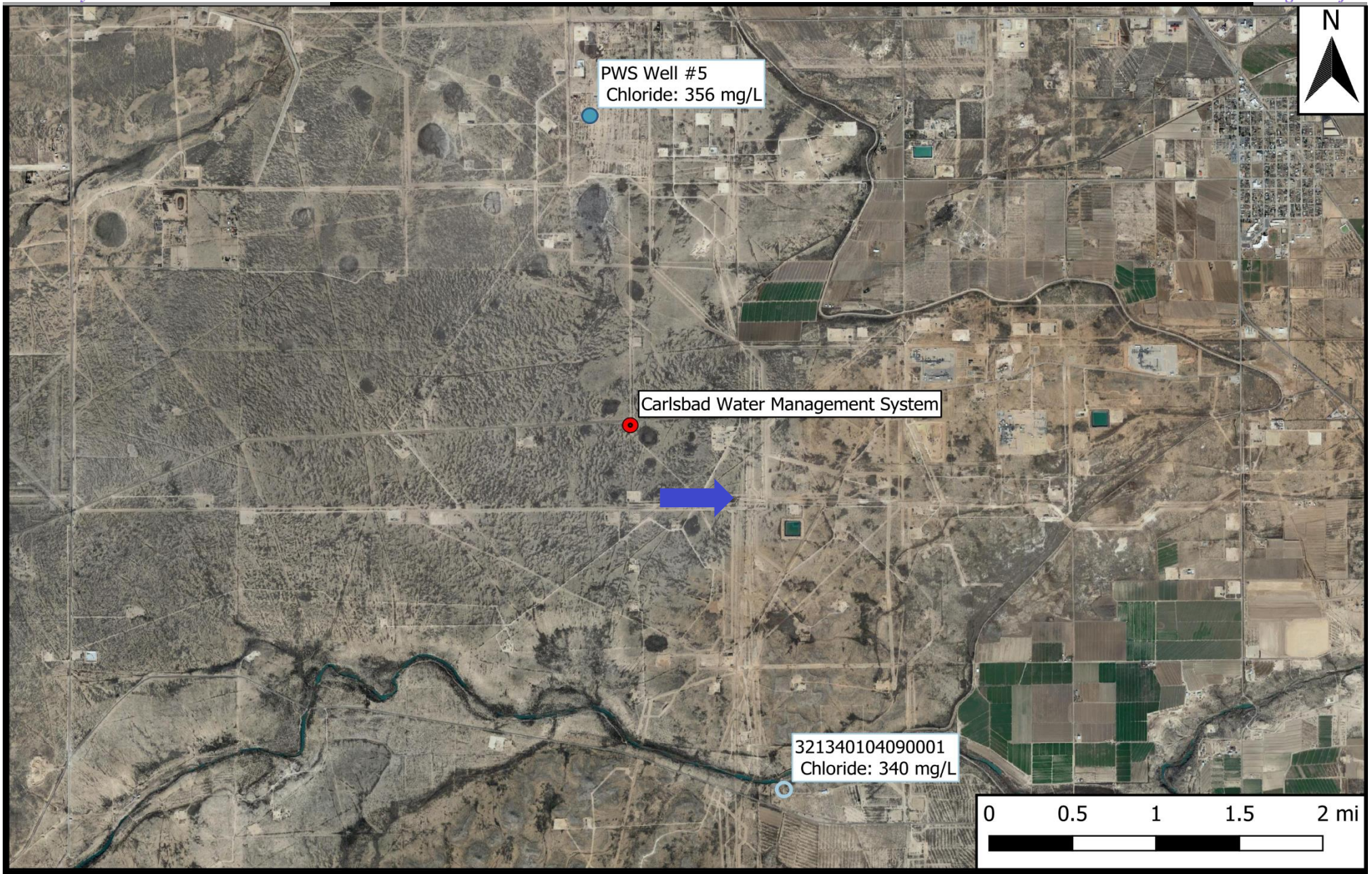
Explanation

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

Appendix E
Elevation Profile


Bounds Rd
3143 ft
284 ft 0.0%
© 2020 Google
500 ft
Google Earth
1996
Imagery Date: 12/21/2019 lat 32.260566° lon -104.161395° elev 3147 ft eye alt 5323 ft
Graph: Min, Avg, Max Elevation: 3143, 3144, 3146 ft
Range Totals: Distance: 583 ft Elev Gain/Loss: 5.35 ft, -5.35 ft Max Slope: -, - Avg Slope: -, -
3146 ft
3143 ft
3143 ft
0.0%
50 ft
100 ft
150 ft
200 ft
250 ft
284 ft
300 ft
350 ft
400 ft
450 ft
500 ft
550 ft
583 ft

Appendix F
Groundwater Quality Data



Legend

- Site Location
- Public Water Supply Well
- USGS Well
- Inferred Groundwater Gradient

Figure 6

Groundwater Concentration and Gradient Map

Mewbourne Oil Company

Carlsbad Water Management System

GPS: 32.261438, -104.163478

Eddy County

eTECH Environmental & Safety Solutions, Inc.

Drafted: bja Checked: jwl Date: 11/25/20

```
#
# File created on 2020-11-25 11:36:36 EST
#
# U.S. Geological Survey
#
# This file contains selected water-quality data for stations in the National Water
# Information System water-quality database.  Explanation of codes found in this file are
# followed by the retrieved data.
#
# The data you have secured from the USGS NWISWeb database may include data that have
# not received Director's approval and as such are provisional and subject to revision.
# The data are released on the condition that neither the USGS nor the United States
# Government may be held liable for any damages resulting from its authorized or
# unauthorized use.
#
# To view additional data-quality attributes, output the results using these options:
# one result per row, expanded attributes.  Additional precautions are at:
# https://help.waterdata.usgs.gov/tutorials/water-quality-data/help-using-the-water-quality-data-retrieval-system#Data_retrievals_precautions
#
#  agency_cd                  - Agency Code
#  site_no                    - USGS site number
#  sample_dt                  - Begin date
#  sample_tm                  - Begin time
#  sample_end_dt              - End date
#  sample_end_tm              - End time
#  sample_start_time_datum_cd - Time datum
#  tm_datum_rlbty_cd          - Time datum reliability code
#  coll_ent_cd                - Agency Collecting Sample Code
#  medium_cd                  - Sample Medium Code
#  tu_id                      - Taxonomic unit code
#  body_part_id               - Body part code
#  parm_cd                    - Parameter code
#  remark_cd                  - Remark code
#  result_va                  - Parameter value
#  val_qual_tx                - Result value qualifier code
#  meth_cd                    - Method code
#  dqi_cd                     - Data-quality indicator code
#  rpt_lev_va                 - Reporting level
#  rpt_lev_cd                 - Reporting level type
#  lab_std_va                 - Lab standard deviation
#  anl_ent_cd                 - Analyzing entity code
#
# The following parameters are included:
#  00191  - Hydrogen ion, water, unfiltered, calculated, milligrams per liter
#  00405  - Carbon dioxide, water, unfiltered, milligrams per liter
#  00410  - Acid neutralizing capacity, water, unfiltered, fixed endpoint (pH 4.5) titration, field, milligrams per liter as calcium carbonate
#  00440  - Bicarbonate, water, unfiltered, fixed endpoint (pH 4.5) titration, field, milligrams per liter
#  00445  - Carbonate, water, unfiltered, fixed endpoint (pH 8.3) titration, field, milligrams per liter
#  00940  - Chloride, water, filtered, milligrams per liter
#  00945  - Sulfate, water, filtered, milligrams per liter
#  00950  - Fluoride, water, filtered, milligrams per liter
#  00955  - Silica, water, filtered, milligrams per liter as SiO2
#
# Description of sample_start_time_datum_cd:
```

```
# MDT  - Mountain Daylight Time
#
# Description of tm_datum_rlbty_cd:
# T  - Transferred
#
# Description of coll_ent_cd and anl_ent_cd:
#
# Description of medium_cd:
# WG  - Groundwater
#
# Description of tu_id:
# https://www.itis.gov/
#
# Description of body_part_id:
#
# Description of remark_cd:
#
# Description of val_qual_tx:
#
# Description of meth_cd:
# ALGOR  - Computation by NWIS algorithm
#
# Description of dqi_cd:
# A  - Historical data
#
# Description of rpt_lev_cd:
#
# Data for the following sites are included:
#  USGS 321340104090001 24S.27E.12.300
#
agency_cd       site_no sample_dt       sample_tm       sample_end_dt   sample_end_tm   sample_start_time_datum_cd      tm_datum_rlbty_cd
coll_ent_cd     medium_cd       tu_id   body_part_id    parm_cd remark_cd       result_va       val_qual_tx     meth_cd dqi_cd  rpt_lev_va
rpt_lev_cd      lab_std_va      anl_ent_cd
5s      15s     10d     5d      10d     5d      3s      1s      8s      3s      11s     11s     5s      1s      12s     5s      5s      1s      12s
6s      11s     8s
USGS    321340104090001 1974-05-30      14:40                   MDT     T               WG                      00191           0.00003         ALGOR
A
USGS    321340104090001 1974-05-30      14:40                   MDT     T               WG                      00405           7.2
A
USGS    321340104090001 1974-05-30      14:40                   MDT     T               WG                      00410           117
A
USGS    321340104090001 1974-05-30      14:40                   MDT     T               WG                      00440           143
A
USGS    321340104090001 1974-05-30      14:40                   MDT     T               WG                      00445           0.0
A
USGS    321340104090001 1974-05-30      14:40                   MDT     T               WG                      00940           340
A
USGS    321340104090001 1974-05-30      14:40                   MDT     T               WG                      00945           1300
A
USGS    321340104090001 1974-05-30      14:40                   MDT     T               WG                      00950           0.60
A
USGS    321340104090001 1974-05-30      14:40                   MDT     T               WG                      00955           17.0
A
```

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

November 23, 2020

LANCE CRENSHAW

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: CARLSBAD WATER MANAGMENT SYSTEM RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 11/20/20 16:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Etech Environmental & Safety Solutions
LANCE CRENSHAW
P.O. Box 301
Lovington NM, 88260
Fax To: (575) 396-1429

Received:	11/20/2020	Sampling Date:	11/19/2020
Reported:	11/23/2020	Sampling Type:	Water
Project Name:	CARLSBAD WATER MANAGMENT SYSTEM	Sampling Condition:	** (See Notes)
Project Number:	13296	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO NM		

Sample ID: OTIS WELL #5 (H003089-01)

Chloride, SM4500Cl-B mg/L **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**356**	4.00	11/23/2020	ND	100	100	100	0.00	

TDS 160.1 mg/L **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**2050**	5.00	11/23/2020	ND	494	98.8	500	0.971	

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name:	ETech Environmental & Safety Solutions, Inc	**BILL TO**	
Project Manager:	Lance Crenshaw	P.O. #:	
Address:	P.O. Box 301	Company:	ETech Env.
City:	Lovington State: NM Zip: 88260	Attn:	
Phone #:	575-396-2378 Fax #: 575-396-1429	Address:	
Project #:	13296 Project Owner: Membourne	City:	
Project Name:	Carlsbad Water Management System Release	State: Zip:	
Project Location:	Rural Eddy County, NM	Phone #:	
Sampler Name:	Miguel Ramirez	Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS					
H003089																								
1	Ofis Well #5	G	1	X									11.19.20		X					X					

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 11-20-20	Received By:	Phone Result: ☐ Yes ☑ No Add'l Phone #:
	Time: 1625		Fax Result: ☐ Yes ☑ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: RUSH! email results [redacted] PM @ etechenv.com
	Time:		
Delivered By: (Circle One)		Sample Condition	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	24.3°C #113	Cool: ☐ Yes ☐ No Intact: ☑ Yes ☐ No	TO

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

Appendix G
Chloride Migration Models

Units

○ Metric (m) ◉ English (inches)

Climate

Arid Hot (NM/W.Texas, Hobbs)

Input for a Distant Well

Distance to Well	150	[ft]
Source Width	50	[ft]
Longitudinal Dispersivity	10	[-]
Transverse Dispersivity	1	[-]

Groundwater Characterictics

Background Cl Concentration in Aquifer	cGW =	350	[mg/L]
Aquifer porosity	n =	0.3	[-]
Groundwater Table Depth	D =	90	[ft]
Aquifer Thickness	H =	20	[ft]
Slope of Water Table	i =	0.05	[-]
Hydraulic Conductivity	Ks =	3.28	[ft/d]
Groundwater Flux	Q =	3.28	[ft2/d]

Source Characteristics

Chloride Load: M = 1.14 [kg/m2]

Max. length of the spill in direction of GW flow: L = 125 [ft]

Plant Uptake Trigger

◉ 1% Input Concentration
○ 10% Input Concentration

Soil Profiles

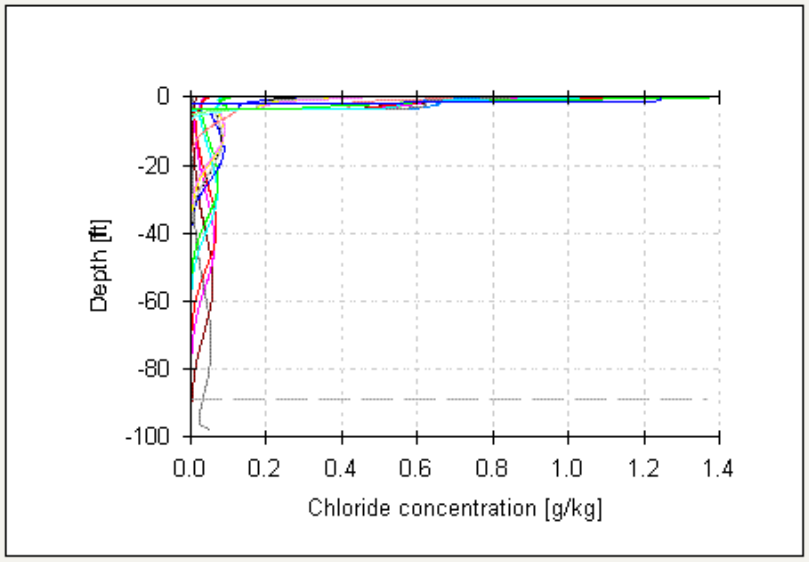
Surface Layer: Loam

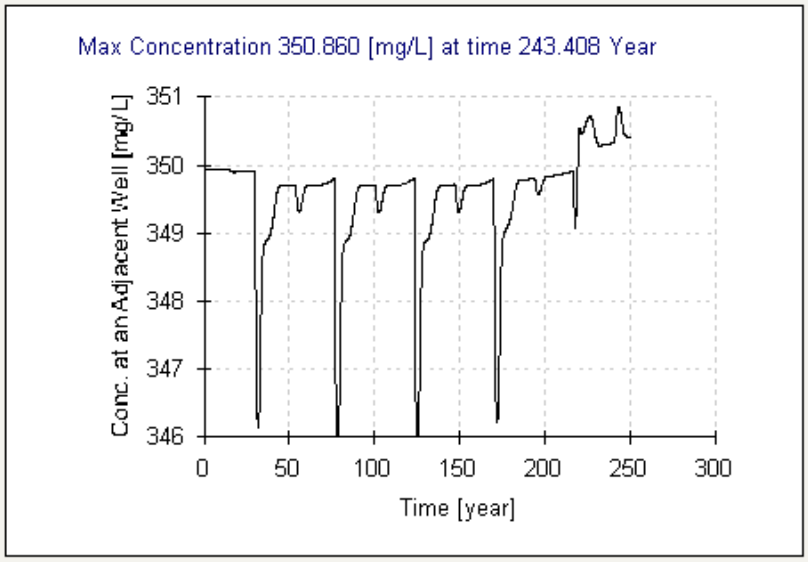
Soil Profile: P1 - Medium Sand (30m)

Output Charts

Quantity 1: Chloride concentration [g/kg]

Quantity 2: Conc. at an Adjacent Well [mg/L]





Depth to Water		Meters		Feet	95	=	2895.60 cm

User provided moist bulk density (rho_m)	0	kg/m^3
		1550 kg/m^3 - Moist bulk density used in calculations
Dry Bulk Density (rho) =	1415	kg/m^3
Default Vol. Moist. Content (Theta_v) =	0.135	
Calculated moist bulk density (rho_m) =	1550	kg/m^3

Trench TT1

Sample Number (increasing depth)	If a Composite Sample from a Depth Interval						Grab Samples				Z	Chl. Conc.	Chl. Load Depth Int.
	Feet			Meters			z		z				
	Top of Sample	Bottom of Sample	Ave. Depth	Top of Sample	Bottom of Sample	Ave. Depth	Feet	Depth for sample	Meters	Depth for sample	Assigned depth in cm	mg/kg	kg/m^2
1							10	10	0	0	304.8	516	2.44
2							11	11	0	0	335.28	440	0.23
3													0.60
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													
												Chloride load (kg/m^2)	3.27

Trench TT2

Sample Number (increasing depth)	If a Composite Sample from a Depth Interval						Grab Samples				Z	Chl. Conc.	Chl. Load Depth Int.
	Feet			Meters			z		z				
	Top of Sample	Bottom of Sample	Ave. Depth	Top of Sample	Bottom of Sample	Ave. Depth	feet	Depth for sample	meters	Depth for sample	Assigned depth in cm	mg/kg	kg/m^2
1							6	6	0	0	182.88	160	0.45
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													
												Chloride load (kg/m^2)	0.45

Trench TT3

Sample Number (increasing depth)	If a Composite Sample from a Depth Interval						Grab Samples				Z	Chl. Conc.	Chl. Load Depth Int.
	Feet			Meters			z		z				
	Top of Sample	Bottom of Sample	Ave. Depth	Top of Sample	Bottom of Sample	Ave. Depth	feet	Depth for sample	meters	Depth for sample	Assigned depth in cm	mg/kg	kg/m^2
1							6	6	0	0	182.88	59	0.17
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													
												Chloride load (kg/m^2)	0.17

Trench TT4

Sample Number (increasing depth)	If a Composite Sample from a Depth Interval						Grab Samples				Z	Chl. Conc.	Chl. Load Depth Int.
	Feet			Meters			z		z				
	Top of Sample	Bottom of Sample	Ave. Depth	Top of Sample	Bottom of Sample	Ave. Depth	feet	Depth for sample	meters	Depth for sample	Assigned depth in cm	mg/kg	kg/m^2
1							7	7	0	0	213.36	200	0.66
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													
												Chloride load (kg/m^2)	0.66

	Proportional Area Weights	Chl. Load of each Borehole	Equal Area Weights	Boring Chl. Load times Proport. Of Area
Trench TT1	0.00	3.27	1.00	0.00
Trench TT2	0.00	0.45	1.00	0.00
Trench TT3	0.00	0.17	1.00	0.00
Trench TT4	0.00	0.66	1.00	0.00
	0		4	
Averaged Chloride Load of All Boreholes			**1.14**	**kg/m^2**

Units

Metric (m) / English (inches)

Climate

Arid Hot (NM/W.Texas, Hobbs)

Input for a Distant Well

Distance to Well	150	[ft]
Source Width	50	[ft]
Longitudinal Dispersivity	10	[-]
Transverse Dispersivity	1	[-]

Groundwater Characterictics

Background Cl Concentration in Aquifer	cGW =	350	[mg/L]
Aquifer porosity	n =	0.3	[-]
Groundwater Table Depth	D =	90	[ft]
Aquifer Thickness	H =	20	[ft]
Slope of Water Table	i =	0.05	[-]
Hydraulic Conductivity	Ks =	3.28	[ft/d]
Groundwater Flux	Q =	3.28	[ft2/d]

Source Characteristics

Chloride Load: M = 9.43 [kg/m2]

Max. length of the spill in direction of GW flow: L = 125 [ft]

Plant Uptake Trigger

1% Input Concentration / 10% Input Concentration

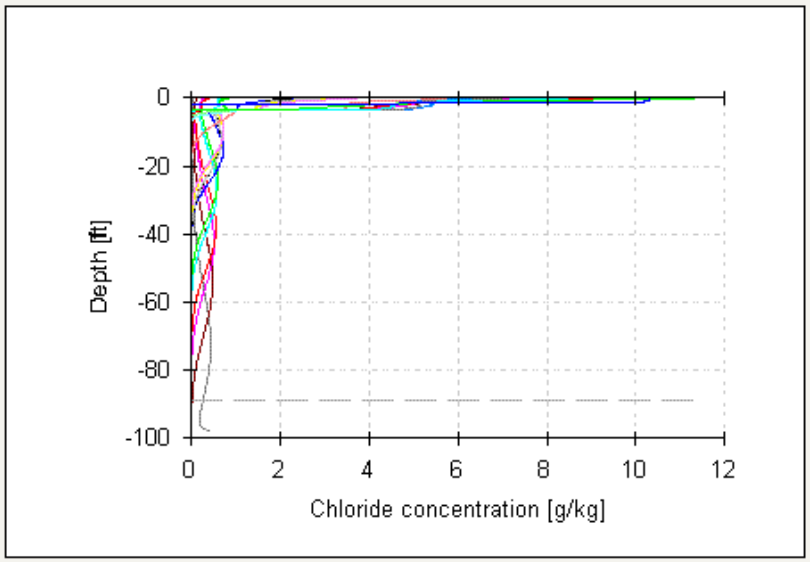
Soil Profiles

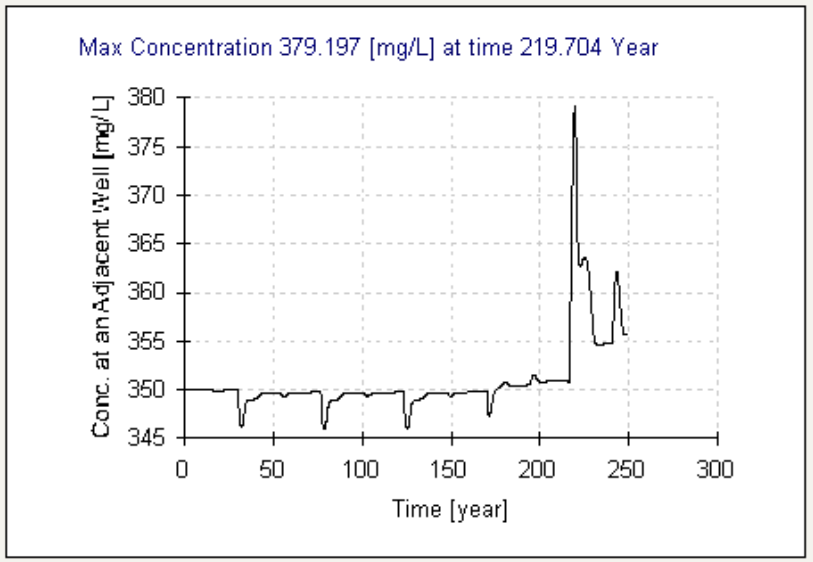
Surface Layer: Loam

Soil Profile: P1 - Medium Sand (30m)

Output Charts

Quantity 1: Chloride concentration [g/kg] Quantity 2: Conc. at an Adjacent Well [mg/L]





Reduce | Display All | Legend | Export | Export All | Refresh | Auto-Refresh | Export | Export All

Depth to Water		Meters		Feet	95	=	2895.60 cm

User provided moist bulk density (rho_m)	0	kg/m^3
		1550 kg/m^3 - Moist bulk density used in calculations
Dry Bulk Density (rho) =	1415	kg/m^3
Default Vol. Moist. Content (Theta_v) =	0.135	
Calculated moist bulk density (rho_m) =	1550	kg/m^3

Trench TT1

Sample Number (increasing depth)	If a Composite Sample from a Depth Interval						Grab Samples				Z	Chl. Conc.	Chl. Load Depth Int.
	Feet			Meters			z		z				
	Top of Sample	Bottom of Sample	Ave. Depth	Top of Sample	Bottom of Sample	Ave. Depth	Feet	Depth for sample	Meters	Depth for sample	Assigned depth in cm	mg/kg	kg/m^2
1							4	4	0	0	121.92	5644	10.67
2							5	5	0	0	152.4	4848	2.48
3							8	8	0	0	243.84	2440	5.16
4							9	9	0	0	274.32	1016	0.82
5							10	10	0	0	304.8	516	0.36
6							11	11	0	0	335.28	440	0.23
7													0.60
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													
												Chloride load (kg/m^2)	20.31

Trench TT2

Sample Number (increasing depth)	If a Composite Sample from a Depth Interval						Grab Samples				Z	Chl. Conc.	Chl. Load Depth Int.
	Feet			Meters			z		z				
	Top of Sample	Bottom of Sample	Ave. Depth	Top of Sample	Bottom of Sample	Ave. Depth	feet	Depth for sample	meters	Depth for sample	Assigned depth in cm	mg/kg	kg/m^2
1							5	5	0	0	152.4	1632	3.86
2							6	6	0	0	182.88	160	0.42
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													
												Chloride load (kg/m^2)	4.28

Trench TT3

Sample Number (increasing depth)	If a Composite Sample from a Depth Interval						Grab Samples				Z	Chl. Conc.	Chl. Load Depth Int.
	Feet			Meters			z		z				
	Top of Sample	Bottom of Sample	Ave. Depth	Top of Sample	Bottom of Sample	Ave. Depth	feet	Depth for sample	meters	Depth for sample	Assigned depth in cm	mg/kg	kg/m^2
1							5	5	0	0	152.4	2440	5.76
2							6	6	0	0	182.88	59	0.59
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													
												Chloride load (kg/m^2)	6.35

Trench TT4

Sample Number (increasing depth)	If a Composite Sample from a Depth Interval						Grab Samples				Z	Chl. Conc.	Chl. Load Depth Int.
	Feet			Meters			z		z				
	Top of Sample	Bottom of Sample	Ave. Depth	Top of Sample	Bottom of Sample	Ave. Depth	feet	Depth for sample	meters	Depth for sample	Assigned depth in cm	mg/kg	kg/m^2
1							4	4	0	0	121.92	2440	4.61
2							5	5	0	0	152.4	2440	1.15
3							6	6	0	0	182.88	748	0.75
4							7	7	0	0	213.36	200	0.22
5													0.02
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													
												Chloride load (kg/m^2)	6.76

	Proportional Area Weights	Chl. Load of each Borehole	Equal Area Weights	Boring Chl. Load times Proport. Of Area
Trench TT1	0.00	20.31	1.00	0.00
Trench TT2	0.00	4.28	1.00	0.00
Trench TT3	0.00	6.35	1.00	0.00
Trench TT4	0.00	6.76	1.00	0.00
	0		4	
Averaged Chloride Load of All Boreholes			**9.43**	**kg/m^2**

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 11566

CONDITIONS OF APPROVAL

Operator:	OGRID:	Action Number:	Action Type:
MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM88241	14744	11566	C-141

OCD Reviewer	Condition
ceads	Based on the GPS coordinates provided in this remediation plan and C-141 application, this site is located in an area of high karst potential. The remediation of this release shall be treated as if it occurred less than 50' to ground water, per 19.15.12 C.(4), NMAC.