

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

State of New Mexico  
Energy Minerals and Natural  
Resources Department

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

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

Incident ID	NRM2017833698
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party Mewbourne Oil Company	OGRID 14744
Contact Name Robbie Runnels	Contact Telephone 575-393-5905
Contact email rrunnels@mewbourne.com	Incident # (assigned by OCD)
Contact mailing address P.O. Box 5270, Hobbs, NM 88241	

### Location of Release Source

Latitude 32.648342

Longitude -103.696512

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Norte 19 Federal COM 1	Site Type: Tank Battery
Date Release Discovered 11/7/2019 @ 10:00	API# (if applicable) 30-025-39160

Unit Letter	Section	Township	Range	County
H	19	19S	33E	Lea

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

### Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls) 120	Volume Recovered (bbls) 100
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 60	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)


Lightning struck a crude tank causing a fire.

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Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? The release was larger than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Notice was given to Bertha Casillas on 11/8/2019 at 11:15 by email from Robbie Runnels.	

### Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: N/A	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Robbie Runnels</u>	Title: <u>Environmental Specialist</u>
Signature: 	Date: <u>11/14/2019</u>
email: <u>rrunnels@mewbourne.com</u>	Telephone: <u>575-393-5905</u>
<b><u>OCD Only</u></b>	
Received by: <u>Ramona Marcus</u>	Date: <u>6/26/2020</u>

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## Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico  
Oil Conservation Division

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

Printed Name: Robbie Runnels Title: Environmental Representative Signature:  Date: 3/15/20email: runnels@mewbourne.com Telephone: 575-393-5905**OCD Only**Received by: Ramona Marcus Date: 6/26/2020

Incident ID	NRM2017833698
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 Representative

Signature:  Date: 3/15/20

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

**OCD Only**

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

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

Signature: Ramona Marcus Date: 6/26/2020

Incident ID	NRM2017833698
District RP	
Facility ID	
Application ID	

## Closure


The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

**Closure Report Attachment Checklist:** *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Robbie Runnels Title: Environmental Representative

Signature:  Date: 3/15/20

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

### OCD Only

Received by: Ramona Marcus Date: 6/26/2020

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_



PO Box 5270 | Hobbs, NM 88240 | Phone 575.393.5905

**March 18, 2020**

**Attn: Environmental Specialist - District 1**

New Mexico Oil Conservation Division  
1625 N. French Drive  
Hobbs, NM 88240

**RE: Release and Remediation  
Mewbourne Oil Company – Norte 19 Fed COM #1  
UL/H sec. 19 T19S R33E  
32.648398, -103.696511**

To Whom It May Concern:

On November 7<sup>th</sup>, 2019, Mewbourne Oil Company (MOC) had a release of produced water when lightning struck a tank battery. A 3<sup>rd</sup> party was procured to perform delineation at the location. Seven (7) soil sample points were established and soil samples were retrieved at various depths and sent to a certified laboratory for analyses. An attached sample map indicates where soil samples were retrieved.

Attached analytical indicates that all 7 sample points were fully delineated for all constituents of interest. The contamination left in-situ will be removed at the time of well abandonment.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Robbie Runnels', with a long horizontal line extending to the right.

Robbie Runnels  
Mewbourne Oil Company  
(575) 393-5905

**Attachments:**

**FIGURES**

Figure 1 – Site Location Map

Figure 2 – Site & Sample Location Map

Figure 3 – Depth to Groundwater Wells

**APPENDICES**

Appendix A – Photographs

Appendix B – Laboratory Analytical Reports

Appendix C – Release Notification and Corrective Action (Form C-141)




# FIGURES

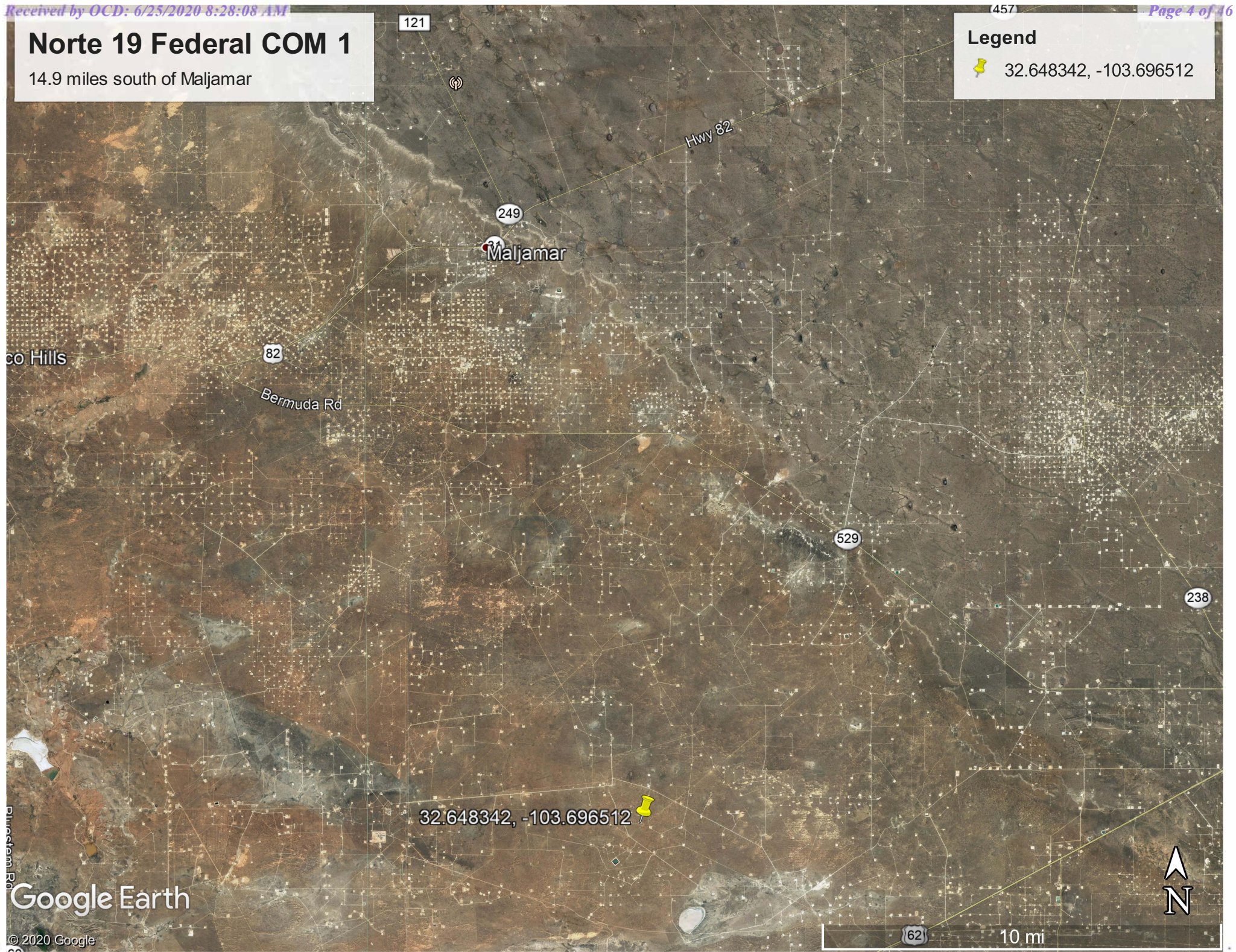


# Norte 19 Federal COM 1

14.9 miles south of Maljamar

**Legend**

 32.648342, -103.696512





# Norte 19 Fed COM 1

Site sample location

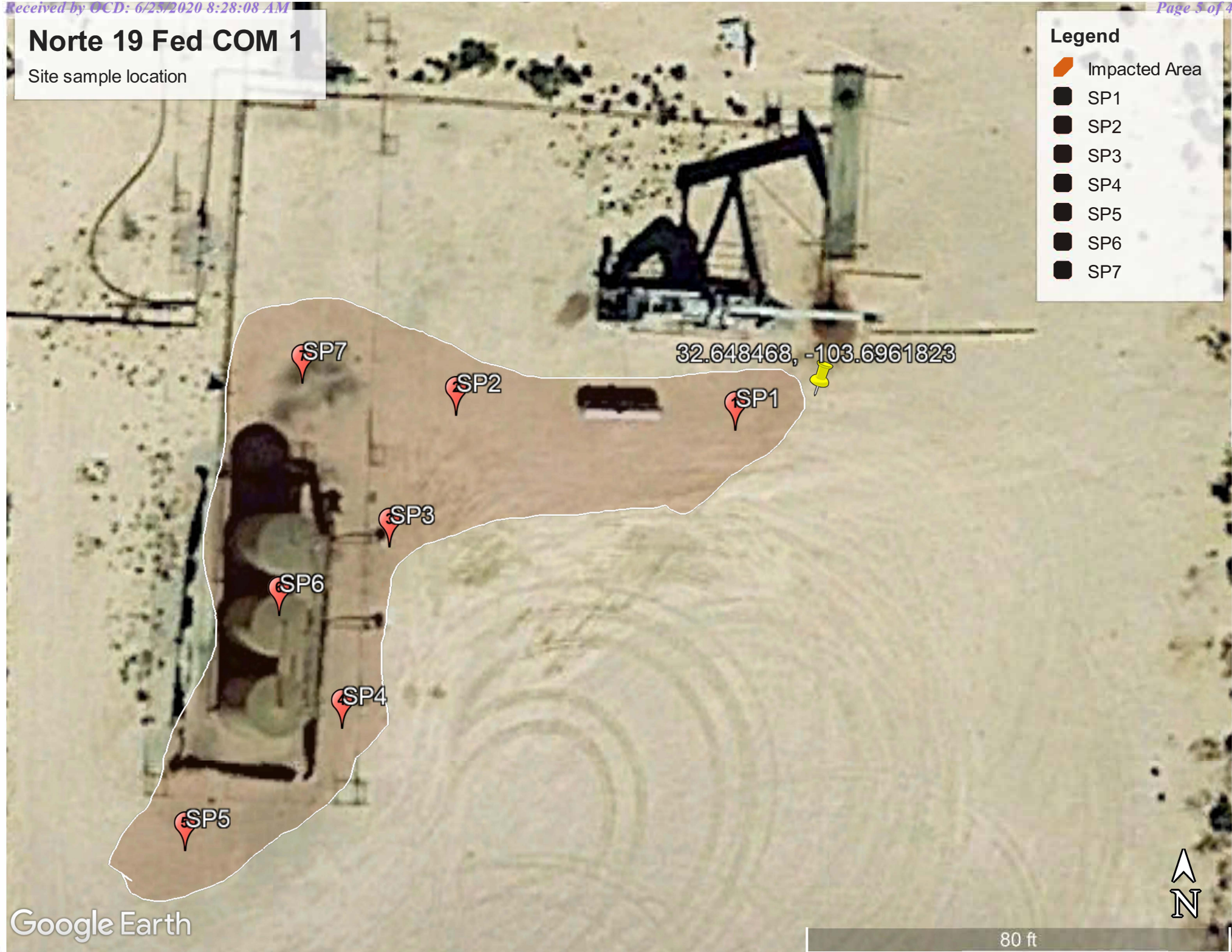
## Legend

- Impacted Area
- SP1
- SP2
- SP3
- SP4
- SP5
- SP6
- SP7

32.648468, -103.6961823

Google Earth

80 ft





## 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)

<b>POD Number</b>		<b>Code</b>	<b>Sub-basin</b>	<b>County</b>	<b>Q Q Q</b>	<b>Sec</b>	<b>Tws</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>	<b>DepthWell</b>	<b>DepthWater</b>	<b>Water Column</b>
<a href="#">CP 00805 POD1</a>			CP	LE	64 16 4	3 1 18	19S	33E	621057	3614563*	450		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

**Record Count:** 1

**PLSS Search:**

**Section(s):** 18

**Township:** 19S

**Range:** 33E

\*UTM location was derived from PLSS - see Help

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

3/12/20 10:11 AM

WATER COLUMN/ AVERAGE DEPTH  
TO WATER



---

*New Mexico Office of the State Engineer*  
**Water Column/Average Depth to Water**

---

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

No records found.

**PLSS Search:**

**Section(s):** 19

**Township:** 19S

**Range:** 33E

---

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

---

3/12/20 10:10 AM

WATER COLUMN/ AVERAGE  
DEPTH TO WATER



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## National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category:

Groundwater ▼

Geographic Area:

New Mexico ▼

GO

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- [Full News](#) 

Groundwater levels for New Mexico

Click to hide state-specific text

## Search Results -- 1 sites found

Agency code = usgs

site\_no list =

- 323936103423301

Minimum number of levels = 1

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

## USGS 323936103423301 19S.33E.18.133213

Available data for this site

Groundwater: Field measurements ▼

GO

Lea County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°39'41.5", Longitude 103°42'36.1" NAD83

Land-surface elevation 3,639 feet above NAVD88

The depth of the well is 850 feet below land surface.

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

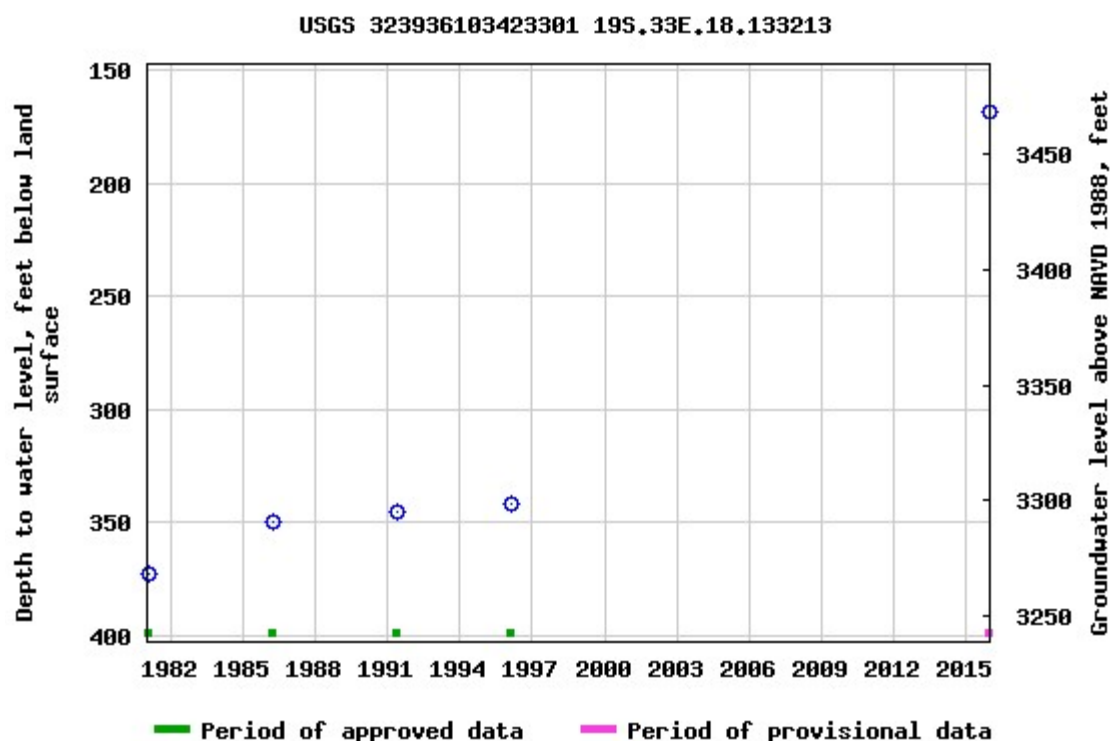
### Output formats

[Table of data](#)

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Breaks in the plot represent a gap of at least one year between field measurements.

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**Title: Groundwater for New Mexico: Water Levels**

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



Page Contact Information: [New Mexico Water Data Maintainer](#)

Page Last Modified: 2020-03-12 12:21:45 EDT

0.68 0.52 nadww01





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Data Category:


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Groundwater levels for New Mexico

Click to hide state-specific text

## Search Results -- 1 sites found

Agency code = usgs

site\_no list =

- 323929103423101

Minimum number of levels = 1

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

## USGS 323929103423101 19S.33E.18.133223

Available data for this site

Groundwater: Field measurements ▼

GO

Lea County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°39'29", Longitude 103°42'31" NAD27

Land-surface elevation 3,636 feet above NAVD88

The depth of the well is 870 feet below land surface.

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

### Output formats

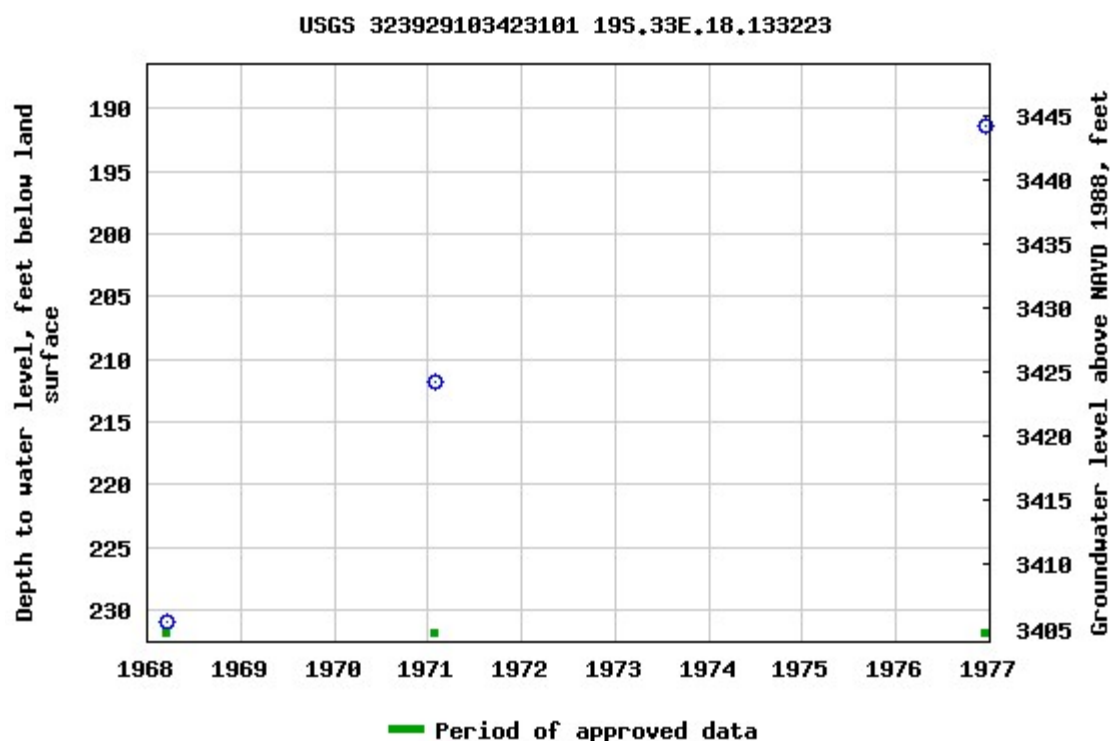
[Table of data](#)

[Tab-separated data](#)

[Graph of data](#)

[Reselect period](#)





Breaks in the plot represent a gap of at least one year between field measurements.

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**Title: Groundwater for New Mexico: Water Levels**

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



Page Contact Information: [New Mexico Water Data Maintainer](#)

Page Last Modified: 2020-03-12 12:19:44 EDT

0.69 0.58 nadww01

# APPENDICES

## Norte 19 Federal COM #1

Unit Letter H, Section 19, T19S, R33E



Release area facing northeast

11/8/19



Release area facing north

11/8/19



Release area facing southwest

11/8/19



Release area facing south

11/8/19



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

December 05, 2019

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

RE: Norte 19 Fedcom 1

OrderNo.: 1911A87

Dear Robbie Runnels:

Hall Environmental Analysis Laboratory received 5 sample(s) on 11/22/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 1911A87

Date Reported: 12/5/2019

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP1 @2

Project: Norte 19 Fedcom 1

Collection Date: 11/20/2019 8:50:00 AM

Lab ID: 1911A87-001

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: CJS
Chloride	270	61		mg/Kg	20	11/26/2019 10:31:25 PM	49047
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	76	10		mg/Kg	1	11/26/2019 7:30:59 AM	49011
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/26/2019 7:30:59 AM	49011
Surr: DNOP	129	70-130		%Rec	1	11/26/2019 7:30:59 AM	49011
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/25/2019 12:36:44 PM	48981
Surr: BFB	106	77.4-118		%Rec	1	11/25/2019 12:36:44 PM	48981
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/25/2019 12:36:44 PM	48981
Toluene	ND	0.049		mg/Kg	1	11/25/2019 12:36:44 PM	48981
Ethylbenzene	ND	0.049		mg/Kg	1	11/25/2019 12:36:44 PM	48981
Xylenes, Total	ND	0.097		mg/Kg	1	11/25/2019 12:36:44 PM	48981
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/25/2019 12:36:44 PM	48981

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

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

## Analytical Report

Lab Order 1911A87

Date Reported: 12/5/2019

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP2 @10

Project: Norte 19 Fedcom 1

Collection Date: 11/20/2019 1:09:00 PM

Lab ID: 1911A87-002

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	340	60		mg/Kg	20	11/26/2019 10:43:45 PM	49047
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/26/2019 7:58:19 AM	49011
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/26/2019 7:58:19 AM	49011
Surr: DNOP	105	70-130		%Rec	1	11/26/2019 7:58:19 AM	49011
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/25/2019 1:47:39 PM	48981
Surr: BFB	107	77.4-118		%Rec	1	11/25/2019 1:47:39 PM	48981
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	11/25/2019 1:47:39 PM	48981
Toluene	ND	0.049		mg/Kg	1	11/25/2019 1:47:39 PM	48981
Ethylbenzene	ND	0.049		mg/Kg	1	11/25/2019 1:47:39 PM	48981
Xylenes, Total	ND	0.097		mg/Kg	1	11/25/2019 1:47:39 PM	48981
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/25/2019 1:47:39 PM	48981

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

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



## Analytical Report

Lab Order 1911A87

Date Reported: 12/5/2019

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP3 @2

Project: Norte 19 Fedcom 1

Collection Date: 11/20/2019 10:10:00 AM

Lab ID: 1911A87-003

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	170	60		mg/Kg	20	11/26/2019 11:20:49 PM	49047
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	10	9.4		mg/Kg	1	12/2/2019 11:41:41 AM	49056
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/2/2019 11:41:41 AM	49056
Surr: DNOP	83.8	70-130		%Rec	1	12/2/2019 11:41:41 AM	49056
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/25/2019 2:58:52 PM	48981
Surr: BFB	107	77.4-118		%Rec	1	11/25/2019 2:58:52 PM	48981
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	11/25/2019 2:58:52 PM	48981
Toluene	ND	0.049		mg/Kg	1	11/25/2019 2:58:52 PM	48981
Ethylbenzene	ND	0.049		mg/Kg	1	11/25/2019 2:58:52 PM	48981
Xylenes, Total	ND	0.098		mg/Kg	1	11/25/2019 2:58:52 PM	48981
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/25/2019 2:58:52 PM	48981

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

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

## Analytical Report

Lab Order 1911A87

Date Reported: 12/5/2019

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP4 @2

Project: Norte 19 Fedcom 1

Collection Date: 11/20/2019 10:15:00 AM

Lab ID: 1911A87-004

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	600	60		mg/Kg	20	11/26/2019 11:57:51 PM	49047
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	11/26/2019 8:16:41 AM	49011
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/26/2019 8:16:41 AM	49011
Surr: DNOP	93.0	70-130		%Rec	1	11/26/2019 8:16:41 AM	49011
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/25/2019 3:22:22 PM	48981
Surr: BFB	108	77.4-118		%Rec	1	11/25/2019 3:22:22 PM	48981
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	11/25/2019 3:22:22 PM	48981
Toluene	ND	0.050		mg/Kg	1	11/25/2019 3:22:22 PM	48981
Ethylbenzene	ND	0.050		mg/Kg	1	11/25/2019 3:22:22 PM	48981
Xylenes, Total	ND	0.099		mg/Kg	1	11/25/2019 3:22:22 PM	48981
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	11/25/2019 3:22:22 PM	48981

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

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



## Analytical Report

Lab Order 1911A87

Date Reported: 12/5/2019

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP5 @2

Project: Norte 19 Fedcom 1

Collection Date: 11/20/2019 10:20:00 AM

Lab ID: 1911A87-005

Matrix: SOIL

Received Date: 11/22/2019 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	61	60		mg/Kg	20	11/27/2019 12:10:12 AM	49047
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/26/2019 8:25:52 AM	49011
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/26/2019 8:25:52 AM	49011
Surr: DNOP	104	70-130		%Rec	1	11/26/2019 8:25:52 AM	49011
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/25/2019 3:45:51 PM	48981
Surr: BFB	115	77.4-118		%Rec	1	11/25/2019 3:45:51 PM	48981
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	11/25/2019 3:45:51 PM	48981
Toluene	ND	0.049		mg/Kg	1	11/25/2019 3:45:51 PM	48981
Ethylbenzene	ND	0.049		mg/Kg	1	11/25/2019 3:45:51 PM	48981
Xylenes, Total	ND	0.098		mg/Kg	1	11/25/2019 3:45:51 PM	48981
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	11/25/2019 3:45:51 PM	48981

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

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

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

WO#: 1911A87

05-Dec-19

**Client:** Mewbourne Oil Company**Project:** Norte 19 Fedcom 1

Sample ID: <b>MB-49047</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>49047</b>	RunNo: <b>64785</b>								
Prep Date: <b>11/26/2019</b>	Analysis Date: <b>11/26/2019</b>	SeqNo: <b>2221557</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-49047</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>49047</b>	RunNo: <b>64785</b>								
Prep Date: <b>11/26/2019</b>	Analysis Date: <b>11/26/2019</b>	SeqNo: <b>2221558</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.0	90	110			

**Qualifiers:**

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

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

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

WO#: 1911A87

05-Dec-19

**Client:** Mewbourne Oil Company**Project:** Norte 19 Fedcom 1

Sample ID: 1911A87-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SP1 @2	Batch ID: 49011	RunNo: 64772								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2219729 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	520	9.7	48.36	75.59	925	57	142			S
Surr: DNOP	4.1		4.836		83.9	70	130			

Sample ID: 1911A87-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SP1 @2	Batch ID: 49011	RunNo: 64772								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2219730 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	85	9.7	48.54	75.59	19.4	57	142	144	20	RS
Surr: DNOP	5.6		4.854		115	70	130	0	0	

Sample ID: LCS-49011	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 49011	RunNo: 64772								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2219747 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	103	63.9	124			
Surr: DNOP	4.4		5.000		88.0	70	130			

Sample ID: MB-49011	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 49011	RunNo: 64772								
Prep Date: 11/25/2019	Analysis Date: 11/26/2019	SeqNo: 2219748 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	13		10.00		126	70	130			

Sample ID: LCS-49056	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 49056	RunNo: 64856								
Prep Date: 11/27/2019	Analysis Date: 12/2/2019	SeqNo: 2223563 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	103	63.9	124			
Surr: DNOP	5.1		5.000		102	70	130			

**Qualifiers:**

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A87

05-Dec-19

Client: Mewbourne Oil Company

Project: Norte 19 Fedcom 1

Sample ID: MB-49056	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 49056	RunNo: 64856								
Prep Date: 11/27/2019	Analysis Date: 12/2/2019	SeqNo: 2223565	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	8.0		10.00		79.9	70	130			

Qualifiers:

- \*

Value exceeds Maximum Contaminant Level.
- D

Sample Diluted Due to Matrix
- H

Holding times for preparation or analysis exceeded
- ND

Not Detected at the Reporting Limit
- PQL

Practical Quantitative Limit
- S

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

Analyte detected in the associated Method Blank
- E

Value above quantitation range
- J

Analyte detected below quantitation limits
- P

Sample pH Not In Range
- RL

Reporting Limit

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

WO#: 1911A87

05-Dec-19

**Client:** Mewbourne Oil Company**Project:** Norte 19 Fedcom 1

Sample ID: <b>MB-48981</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>48981</b>	RunNo: <b>64748</b>								
Prep Date: <b>11/22/2019</b>	Analysis Date: <b>11/25/2019</b>	SeqNo: <b>2219154</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	77.4	118			

Sample ID: <b>LCS-48981</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>48981</b>	RunNo: <b>64748</b>								
Prep Date: <b>11/22/2019</b>	Analysis Date: <b>11/25/2019</b>	SeqNo: <b>2219155</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	80	120			
Surr: BFB	1200		1000		115	77.4	118			

Sample ID: <b>1911A87-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>SP1 @2</b>	Batch ID: <b>48981</b>	RunNo: <b>64748</b>								
Prep Date: <b>11/22/2019</b>	Analysis Date: <b>11/25/2019</b>	SeqNo: <b>2219157</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.8	24.15	0	105	69.1	142			
Surr: BFB	1100		966.2		118	77.4	118			S

Sample ID: <b>1911A87-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>SP1 @2</b>	Batch ID: <b>48981</b>	RunNo: <b>64748</b>								
Prep Date: <b>11/22/2019</b>	Analysis Date: <b>11/25/2019</b>	SeqNo: <b>2219158</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.8	24.15	0	103	69.1	142	2.00	20	
Surr: BFB	1100		966.2		113	77.4	118	0	0	

**Qualifiers:**

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

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

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

WO#: 1911A87

05-Dec-19

**Client:** Mewbourne Oil Company**Project:** Norte 19 Fedcom 1

Sample ID: <b>MB-48981</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>48981</b>	RunNo: <b>64748</b>								
Prep Date: <b>11/22/2019</b>	Analysis Date: <b>11/25/2019</b>	SeqNo: <b>2219184</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		98.8	80	120			

Sample ID: <b>LCS-48981</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>48981</b>	RunNo: <b>64748</b>								
Prep Date: <b>11/22/2019</b>	Analysis Date: <b>11/25/2019</b>	SeqNo: <b>2219185</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	108	80	120			
Toluene	1.1	0.050	1.000	0	108	80	120			
Ethylbenzene	1.1	0.050	1.000	0	107	80	120			
Xylenes, Total	3.2	0.10	3.000	0	106	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID: <b>1911A87-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>SP2 @10</b>	Batch ID: <b>48981</b>	RunNo: <b>64748</b>								
Prep Date: <b>11/22/2019</b>	Analysis Date: <b>11/25/2019</b>	SeqNo: <b>2219190</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	0.9891	0	93.7	76	123			
Toluene	0.94	0.049	0.9891	0.009427	94.0	80.3	127			
Ethylbenzene	0.95	0.049	0.9891	0	95.6	80.2	131			
Xylenes, Total	2.8	0.099	2.967	0.01487	95.2	78	133			
Surr: 4-Bromofluorobenzene	0.98		0.9891		98.6	80	120			

Sample ID: <b>1911A87-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>SP2 @10</b>	Batch ID: <b>48981</b>	RunNo: <b>64748</b>								
Prep Date: <b>11/22/2019</b>	Analysis Date: <b>11/25/2019</b>	SeqNo: <b>2219193</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.024	0.9479	0	91.8	76	123	6.25	20	
Toluene	0.89	0.047	0.9479	0.009427	92.6	80.3	127	5.79	20	
Ethylbenzene	0.89	0.047	0.9479	0	94.4	80.2	131	5.52	20	
Xylenes, Total	2.7	0.095	2.844	0.01487	94.1	78	133	5.40	20	
Surr: 4-Bromofluorobenzene	0.97		0.9479		102	80	120	0	0	

**Qualifiers:**

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

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



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

## Sample Log-In Check List

Client Name: MEWBOURNE OIL COM

Work Order Number: 1911A87

RcptNo: 1

Received By: Yazmine Garduno 11/22/2019 9:07:00 AM

Completed By: Desiree Dominguez 11/22/2019 10:46:02 AM

Reviewed By: LB

### Chain of Custody

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

### Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒ IO
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:

11/22/19

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

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

Checked by: \_\_\_\_\_

### Special Handling (if applicable)

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

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

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	4.7	Good	Yes			
2	4.6	Good	Yes			
3	3.7	Good	Yes			



Client: M. Zamboni

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

Project Name:

Project #:

Project Manager:

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers:

Cooler Temp (including CF): Low 10/10 (°C)

Container Type and #	Material	Weight	Volume	Notes
1	...	...	...	...
2	...	...	...	...
3	...	...	...	...
4	...	...	...	...
5	...	...	...	...
6	...	...	...	...
7	...	...	...	...
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97	...	...	...	...
98	...	...	...	...
99	...	...	...	...
100	...	...	...	...

Preservative  
Type

HEAL No.

## HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

[illegible]

Date:	Time:	Relinquished by:
-------	-------	------------------

11-24 6:30 AM

Received by                      Via:                     

Date	Time
------	------

11/21/19 2130

Remarks:

Remarks:  $114 + 0.3 = 114.3$

$$4.3 + 0.3 = 4.6$$

24 + 13 = 37

Date:	Time:	Relinquished by:
-------	-------	------------------

✓24/9	10/11	<del>11/11</del>
-------	-------	------------------

Received by                      Via:                     

Date	Time
------	------

it holds also





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

December 12, 2019

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

RE: Norte 19 Fed Com 1

OrderNo.: 1912274

Dear Robbie Runnels:

Hall Environmental Analysis Laboratory received 2 sample(s) on 12/6/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 1912274

Date Reported: 12/12/2019

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP6 @ 12

Project: Norte 19 Fed Com 1

Collection Date: 12/4/2019

Lab ID: 1912274-001

Matrix: SOIL

Received Date: 12/6/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1000	59		mg/Kg	20	12/10/2019 2:03:15 AM	49232
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/11/2019 5:04:36 PM	49218
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/11/2019 5:04:36 PM	49218
Surr: DNOP	95.8	70-130		%Rec	1	12/11/2019 5:04:36 PM	49218
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/9/2019 6:15:48 PM	49206
Surr: BFB	76.8	66.6-105		%Rec	1	12/9/2019 6:15:48 PM	49206
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/9/2019 6:15:48 PM	49206
Toluene	ND	0.050		mg/Kg	1	12/9/2019 6:15:48 PM	49206
Ethylbenzene	ND	0.050		mg/Kg	1	12/9/2019 6:15:48 PM	49206
Xylenes, Total	ND	0.10		mg/Kg	1	12/9/2019 6:15:48 PM	49206
Surr: 4-Bromofluorobenzene	90.1	80-120		%Rec	1	12/9/2019 6:15:48 PM	49206

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

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

## Analytical Report

Lab Order 1912274

Date Reported: 12/12/2019

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: SP7 @ 2

Project: Norte 19 Fed Com 1

Collection Date: 12/4/2019

Lab ID: 1912274-002

Matrix: SOIL

Received Date: 12/6/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	60		mg/Kg	20	12/10/2019 2:15:36 AM	49232
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	12/11/2019 5:13:41 PM	49218
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	12/11/2019 5:13:41 PM	49218
Surr: DNOP	101	70-130		%Rec	1	12/11/2019 5:13:41 PM	49218
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/9/2019 6:39:22 PM	49206
Surr: BFB	81.1	66.6-105		%Rec	1	12/9/2019 6:39:22 PM	49206
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/9/2019 6:39:22 PM	49206
Toluene	ND	0.048		mg/Kg	1	12/9/2019 6:39:22 PM	49206
Ethylbenzene	ND	0.048		mg/Kg	1	12/9/2019 6:39:22 PM	49206
Xylenes, Total	ND	0.096		mg/Kg	1	12/9/2019 6:39:22 PM	49206
Surr: 4-Bromofluorobenzene	94.1	80-120		%Rec	1	12/9/2019 6:39:22 PM	49206

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

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

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

WO#: 1912274

12-Dec-19

**Client:** Mewbourne Oil Company**Project:** Norte 19 Fed Com 1

Sample ID: <b>MB-49232</b>	SampType: <b>mbk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>49232</b>	RunNo: <b>65035</b>								
Prep Date: <b>12/9/2019</b>	Analysis Date: <b>12/9/2019</b>	SeqNo: <b>2231761</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-49232</b>	SampType: <b>lcs</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>49232</b>	RunNo: <b>65035</b>								
Prep Date: <b>12/9/2019</b>	Analysis Date: <b>12/9/2019</b>	SeqNo: <b>2231762</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.9	90	110			

**Qualifiers:**

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

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

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

WO#: 1912274

12-Dec-19

**Client:** Mewbourne Oil Company**Project:** Norte 19 Fed Com 1

Sample ID: <b>LCS-49249</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>49249</b>		RunNo: <b>65093</b>							
Prep Date: <b>12/10/2019</b>	Analysis Date: <b>12/11/2019</b>		SeqNo: <b>2233725</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.9		5.000		118	70	130			

Sample ID: <b>MB-49249</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>49249</b>		RunNo: <b>65093</b>							
Prep Date: <b>12/10/2019</b>	Analysis Date: <b>12/11/2019</b>		SeqNo: <b>2233726</b>		Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	14		10.00		136	70	130			S

Sample ID: <b>LCS-49218</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>49218</b>		RunNo: <b>65093</b>							
Prep Date: <b>12/9/2019</b>	Analysis Date: <b>12/11/2019</b>		SeqNo: <b>2233816</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	105	63.9	124			
Surr: DNOP	4.6		5.000		92.2	70	130			

Sample ID: <b>MB-49218</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>49218</b>		RunNo: <b>65093</b>							
Prep Date: <b>12/9/2019</b>	Analysis Date: <b>12/11/2019</b>		SeqNo: <b>2233817</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		99.8	70	130			

**Qualifiers:**

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

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

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

WO#: 1912274

12-Dec-19

**Client:** Mewbourne Oil Company**Project:** Norte 19 Fed Com 1

Sample ID: <b>mb-49206</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>49206</b>	RunNo: <b>65038</b>								
Prep Date: <b>12/6/2019</b>	Analysis Date: <b>12/9/2019</b>	SeqNo: <b>2231210</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	860		1000		85.8	66.6	105			

Sample ID: <b>lcs-49206</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>49206</b>	RunNo: <b>65038</b>								
Prep Date: <b>12/6/2019</b>	Analysis Date: <b>12/9/2019</b>	SeqNo: <b>2231219</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.2	80	120			
Surr: BFB	930		1000		92.9	66.6	105			

**Qualifiers:**

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

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

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

WO#: 1912274

12-Dec-19

**Client:** Mewbourne Oil Company**Project:** Norte 19 Fed Com 1

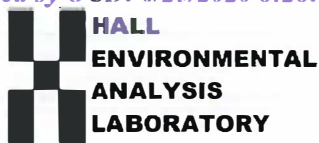
Sample ID: <b>mb-49206</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>49206</b>	RunNo: <b>65038</b>								
Prep Date: <b>12/6/2019</b>	Analysis Date: <b>12/9/2019</b>	SeqNo: <b>2231250</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		99.5	80	120			

Sample ID: <b>LCS-49206</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>49206</b>	RunNo: <b>65038</b>								
Prep Date: <b>12/6/2019</b>	Analysis Date: <b>12/9/2019</b>	SeqNo: <b>2231251</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	1.000	0	86.1	80	120			
Toluene	0.90	0.050	1.000	0	90.1	80	120			
Ethylbenzene	0.89	0.050	1.000	0	89.5	80	120			
Xylenes, Total	2.8	0.10	3.000	0	91.9	80	120			
Surr: 4-Bromofluorobenzene	0.97		1.000		97.0	80	120			

**Qualifiers:**

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

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



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

## Sample Log-In Check List

Client Name: **MEWBOURNE OIL COM**Work Order Number: **1912274**RcptNo: **1**Received By: **Yazmine Garduno**

12/6/2019 9:00:00 AM

Completed By: **Erin Melendrez**

12/6/2019 9:56:47 AM

Reviewed By: **DAD 12/6/19**

### Chain of Custody

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

### Log In

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

# of preserved  
bottles checked  
for pH:  
( $<2$  or  $>12$  unless noted)

Adjusted? ☐Checked by: **YG 12/6/19**

### 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 PersonRegarding: Client Instructions: 

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.3	Good				
2	3.0	Good				



<b>Chain-of-Custody Record</b>		Turn-Around Time:
Client: <u>Mowbray</u>	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush	<u>5 day Turn</u>
Mailing Address:	Project Name: <u>North Lakecom</u>	
Phone #:	Project #:	
email or Fax#:	Project Manager: <u>Robbie Runnels</u>	
QA/QC Package:	Sampler:	
<input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)	On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Accreditation: <input type="checkbox"/> Az Compliance	# of Coolers: <u>1</u>	
<input type="checkbox"/> NELAC <input type="checkbox"/> Other		
<input type="checkbox"/> EDD (Type)		

☒ Standard☐ Rush

5 day Turn

Project Name:

NOTE: 19 Feb 2011

Project #:

Project Manager:

# Robbie Runners

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers:

Cooler Temp (including CF):  $4.4 - 0.1 = 4.3$  ( $^{\circ}\text{C}$ )

Container Type and #	Container Name	Container ID	Container Image	Container Status	Container IP	Container Port	Container Description
Container 1	Container 1 Name	Container 1 ID	Container 1 Image	Container 1 Status	Container 1 IP	Container 1 Port	Container 1 Description
Container 2	Container 2 Name	Container 2 ID	Container 2 Image	Container 2 Status	Container 2 IP	Container 2 Port	Container 2 Description
Container 3	Container 3 Name	Container 3 ID	Container 3 Image	Container 3 Status	Container 3 IP	Container 3 Port	Container 3 Description
Container 4	Container 4 Name	Container 4 ID	Container 4 Image	Container 4 Status	Container 4 IP	Container 4 Port	Container 4 Description
Container 5	Container 5 Name	Container 5 ID	Container 5 Image	Container 5 Status	Container 5 IP	Container 5 Port	Container 5 Description
Container 6	Container 6 Name	Container 6 ID	Container 6 Image	Container 6 Status	Container 6 IP	Container 6 Port	Container 6 Description
Container 7	Container 7 Name	Container 7 ID	Container 7 Image	Container 7 Status	Container 7 IP	Container 7 Port	Container 7 Description
Container 8	Container 8 Name	Container 8 ID	Container 8 Image	Container 8 Status	Container 8 IP	Container 8 Port	Container 8 Description
Container 9	Container 9 Name	Container 9 ID	Container 9 Image	Container 9 Status	Container 9 IP	Container 9 Port	Container 9 Description
Container 10	Container 10 Name	Container 10 ID	Container 10 Image	Container 10 Status	Container 10 IP	Container 10 Port	Container 10 Description

Preservative  
Type

3.1 - 0.1 = 3.0  
HEAL No.  
K1727L

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

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

[illegible]



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

January 15, 2020

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

RE: Norte 19 Federal Com 001

OrderNo.: 2001373

Dear Robbie Runnels:

Hall Environmental Analysis Laboratory received 1 sample(s) on 1/10/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**Lab Order **2001373**Date Reported: **1/15/2020****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Mewbourne Oil Company**Client Sample ID:** SP6@ 18ft**Project:** Norte 19 Federal Com 001**Collection Date:** 12/31/2019 10:30:00 AM**Lab ID:** 2001373-001**Matrix:** SOIL**Received Date:** 1/10/2020 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>CJS</b>
Chloride	160	60		mg/Kg	20	1/14/2020 4:11:39 PM	49749

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

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

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

WO#: 2001373

15-Jan-20

**Client:** Mewbourne Oil Company**Project:** Norte 19 Federal Com 001

Sample ID: <b>MB-49749</b>		SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>						
Client ID: <b>PBS</b>		Batch ID: <b>49749</b>		RunNo: <b>65712</b>						
Prep Date: <b>1/10/2020</b>		Analysis Date: <b>1/10/2020</b>		SeqNo: <b>2257076</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-49749</b>		SampType: <b>lcs</b>		TestCode: <b>EPA Method 300.0: Anions</b>						
Client ID: <b>LCSS</b>		Batch ID: <b>49749</b>		RunNo: <b>65712</b>						
Prep Date: <b>1/10/2020</b>		Analysis Date: <b>1/10/2020</b>		SeqNo: <b>2257077</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.0	90	110			

**Qualifiers:**

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

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



*Hall Environmental Analysis Laboratory  
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## Sample Log-In Check List

Client Name: MEWBOURNE OIL COM

Work Order Number: 2001373

RcptNo: 1

Received By: **Daniel Marquez**

1/10/2020 9:00:00 AM

Completed By: **Leah Baca**

1/10/2020 10:47:07 AM

Reviewed By:

### ***Chain of Custody***

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

**Log In**

- |  |   |  |  |
|--|---|--|--|
| 3. Was an attempt made to cool the samples?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | NA <input type="checkbox"/>            |
| 4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to $6.0^{\circ}\text{C}$ | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | NA <input type="checkbox"/>            |
| 5. Sample(s) in proper container(s)?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| 6. Sufficient sample volume for indicated test(s)?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| 7. Are samples (except VOA and ONG) properly preserved?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| 8. Was preservative added to bottles?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | NA <input type="checkbox"/>            |
| 9. Received at least 1 vial with headspace $<1/4"$ for AQ VOA?                                 | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | NA <input checked="" type="checkbox"/> |
| 10. Were any sample containers received broken?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |  |
| 11. Does paperwork match bottle labels?<br>(Note discrepancies on chain of custody)            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| 12. Are matrices correctly identified on Chain of Custody?                                     | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| 13. Is it clear what analyses were requested?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| 14. Were all holding times able to be met?<br>(If no, notify customer for authorization.)      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
- # of preserved bottles checked for pH: (<2)

Adjusted? ↗

Checked by: ↘

# of preserved bottles checked for pH: \_\_\_\_\_  
( $\leq 2$  or  $\geq 12$  unless noted)  
Adjusted? \_\_\_\_\_  
Checked by: DAD 1/10/20

**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	2.2	Good				
2	4.0	Good				



# Chain-of-Custody Record

Client: Mewbourne

Mailing Address: on file

Phone #:

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

5 day Turn

☐ Standard

☐ Rush

Project Name:

Norfolk 19 Federal Control

Project #:

Project Manager:

Robbie Rawnels

Sampler:

On Ice: ☒ Yes ☐ No

# of Coolers (2) 2.2 + 0 = 2.2

Cooler Temp (including CF): 4.0 + 0 = 4.0 (°C)

Container Type and #

Preservative Type

HEAL No.  
2001373

Date Time Matrix Sample Name

12/31 10:30 SS LP6 @ 18ft

1

ICC

-001



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

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<sub>3</sub>, NO<sub>2</sub>, PO<sub>4</sub>, SO<sub>4</sub>  
or only per customer request  
8260 (VOA)

8270 (Semi-VOA)

Total Coliform (Present/Absent)

Date: <u>12/31</u>	Time: <u>7:00</u>	Relinquished by: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Via: <u>[Signature]</u>	Date: <u>1/9/20</u>	Time: <u>0700</u>
Date: <u>1/9/20</u>	Time: <u>1900</u>	Relinquished by: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Via: <u>Carrier</u>	Date: <u>1/10/20</u>	Time: <u>900</u>

Remarks: