



*4801 Business Park Blvd | Hobbs NM
88240 | 575-393-5905*

REMEDIATION SUMMARY & SITE CLOSURE REQUEST

**MEWBOURNE OIL COMPANY
FNR 17 20 W2IP Federal COM 3H
Eddy County, New Mexico
Unit Letter "J" (NW/SE), Section 17, Township 23 South, Range 30 East
Latitude 32.303547 North, Longitude -103.899399 West**

Prepared For:

Mewbourne Oil Company
4801 Business Park Blvd
Hobbs, New Mexico 88240

Prepared By:

Mewbourne Oil Company

April, 2020

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

Robbie Runnels
Environmental Specialist

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1.0 INTRODUCTION & BACKGROUND INFORMATION

Mewbourne Oil Company (Mewbourne), has prepared this *Remediation Summary & Site Closure Request* for the release site known as FNR 17 20 W2IP Federal COM 3H (FNR). The legal description of the release site is Unit Letter "J" (NW/SE) of Section 17 in Township 23 South of Range 30 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.303547° North latitude and -103.899399° West longitude. The property affected by the release is owned by the Department of Interior – Bureau of Land Management (BLM). A "Site Location Map" is provided as Figure 1.

On December 4th, 2019, Mewbourne discovered a release of approximately fifty (50) barrels (bbls) of produced water when a four-inch steel line developed a hole. An estimated ten (10) bbls were recovered. Approximately fifty-seven thousand four-hundred seventy-five (57,475) square feet (ft²) of pasture area was impacted. New Mexico Oil Conservation Division (NMOCD) was notified of the release on December 5th, 2019, and an initial C-141 was submitted to NMOCD for approval.

Locations of soil sample collection areas are depicted in Figure 2, "Site & Sample Location Map". Laboratory analytical results are summarized in Table 1, "Concentrations of Benzene, BTEX, TPH & Chloride in Soil". Laboratory analytical reports are provided in Appendix C.

The Form C-141 is provided as Appendix C. General photographs of the release site and remediation activities are provided as Appendix A.

2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE) indicated no reportable wells for Section 17 of Township 23 South in Range 30 East. Utilizing the United States Geological Survey (USGS) website for groundwater in combination with the NMWRRS for the water wells in adjacent sections on all four sides of the FNR release area, an average depth to ground water (DGW) was determined to be two-hundred forty-one (241) feet below ground surface (bgs). A depth-to-groundwater reference map utilized by the NMOCD indicates groundwater could be encountered at approximately one-hundred sixty (160) feet. Based on the NMOCD-Table 1, this location would allow remediation concentration levels to be 10 mg/kg for Benzene, 50 mg/kg for BTEX, 2,500 mg/kg for TPH, and 20,000 mg/kg for chloride.

A search of the NMWRRS database indicated no records of any water wells within the section of the release or immediate surrounding area. Based on the NMOCD ranking system, zero (0) points were assigned to the site as a result of this criterion.

There are no surface water bodies within one thousand (1000) feet of the release. Based on the NMOCD-Table 1, this location would allow remediation concentration levels to be 10 mg/kg for Benzene, 50 mg/kg for BTEX, 2,500 mg/kg for TPH, and 20,000 mg/kg for chloride.

As remediation is taking place in the pasture area, the soil remediation level for chloride concentration is 600 mg/kg for the first four (4) feet.

3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

Remediation began on January 13th, 2020. Initial as well as final sampling began on January 20th, 2020. Nineteen (19) soil sample points were established (Floor 1 through Floor 19) and soil samples were retrieved at various depths in the pursuit of vertical as well as horizontal delineation. The soil samples were field screened for chloride concentrations and clean samples were submitted to an NMOCD approved and certified laboratory for confirmation analyses. Chloride, gasoline range organics (GRO), oil range organics (ORO), and diesel range organics (DRO) concentrations were analyzed in addition to benzene, toluene, ethyl-benzene, and xlyenes (BTEX) concentrations.

On January 20th, 2020, horizontal delineation composite samples were retrieved to ensure the total impacted area was encompassed within the excavated area. Composite samples represented no more than two-hundred (200) square feet of area. The composite soil samples were retrieved, field screened, and submitted to an NMOCD approved and certified laboratory for confirmation analyses. Laboratory analyses confirms that the site had been delineated horizontally.

Excavated soil was transferred to an approved NMOCD permitted facility for final disposal.

The floor of the excavation still exhibited contaminant concentrations above the Table 1 remediation levels for chlorides four (4) feet bgs. The floor of the excavation was fitted with a twenty (20) mil, impermeable, polyethylene plastic liner. The plastic liner is an engineered control that serves to inhibit vertical migration of contaminants both upward to the vegetative zone and downward to the underlying groundwater. The remaining portion of the excavation was backfilled with locally purchased, non-impacted material. The clean topsoil was compacted, and contoured to fit the surrounding topography.

The disturbed area will be seeded with the land-owner approved seed mix at such a time it is conducive for germination.

4.0 QA/QC PROCEDURES

4.1 Soil Sampling

Soil Samples were delivered to Hall Laboratories, Inc., in Albuquerque, New Mexico, for analyses of BTEX, TPH, and/or chloride concentrations using the methods described below. Soil samples were analyzed for BTEX, TPH, and/or chloride concentrations within fourteen (14) days following the collection date.

The soil samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method SW 846-8021b (TCLP - SW-8260B)
- TPH concentrations in accordance with modified EPA Method SW 846-8015M
- Chloride concentrations in accordance with EPA Method 300.1

4.2 Decontamination of Equipment

Cleaning of the sampling equipment was the responsibility of the environmental technician. Prior to use, and between each sample, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water.

4.3 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-of-custody form(s). These procedures were either transmitted with the laboratory analytical reports or are on file at the laboratory.

5.0 SITE CLOSURE REQUEST

Soil samples collected from the FNR 17 20 W2IP Federal COM 3H release site were analyzed by an NMOCD-approved laboratory, and concentrations of benzene, BTEX, and chloride were below the Table 1 limits established for the site. Soil exhibiting chloride concentrations above the Table 1 action level were removed above and isolated below a twenty (20) mil liner to protect the vegetative zone above the liner and to restrict the migration of chloride downward towards groundwater.

Mewbourne Oil Company is providing the NMOCD Artesia District Office a copy of this *Remediation Summary & Site Closure Request*. Mewbourne ask the NMOCD grant site closure to the FNR 17 20 W2IP Federal COM 3H release site.

6.0 LIMITATIONS

Mewbourne Oil Company has prepared this *Remediation Summary & Site Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended. Mewbourne has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Mewbourne has not conducted an independent examination of the facts contained in referenced materials and statements. Mewbourne has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Mewbourne has prepared this report in a professional manner, using the degree of skill and care exercised by similar oil company environmental departments and or consultants. Mewbourne 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 the New Mexico Oil Conservation Division as well as Mewbourne Oil Company. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Mewbourne Oil Company.

7.0 DISTRIBUTION:


- Copy 1: Victoria Venegas
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division (District 2)
1301 E. Grand Avenue
Artesia, NM 88210
- Copy 2: Kelsey Wade
Bureau of Land Management
620 E. Greene St.
Carlsbad, NM 88220
- Copy 3: Robin Terrell
Mewbourne Oil Company
4801 Business Park Blvd
Hobbs, New Mexico 88240

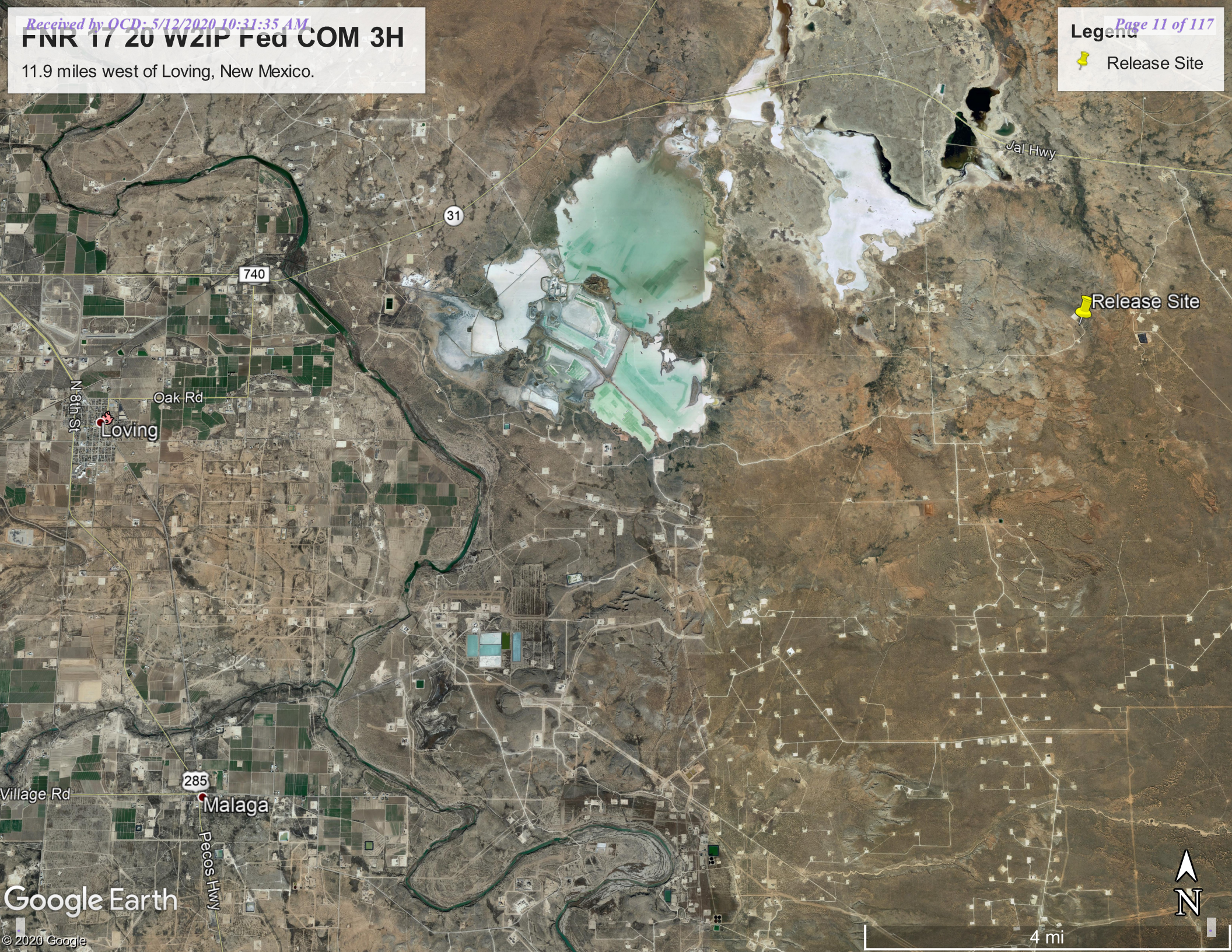
FIGURES

FNR 17 20 WZIP Fed COM 3H

11.9 miles west of Loving, New Mexico.

Legend

 Release Site



Google Earth

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4 mi





New Mexico Office of the State Engineer

Wells with Well Log Information



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

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

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

(NAD83 UTM in meters)

(in feet)

POD Number	Code	POD Subbasin	County	Source	q	q	q	Sec	Tws	Rng	X	Y	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number			
C 03478 POD1		C	ED	Shallow	64	16	4	3	2	1	21	23S	30E	604638	3573670	 06/07/2016	06/27/2016	07/11/2016	230	105	JUSTIN MULLINS	
C 04018 POD1		CUB	ED	Shallow	2	2	1	21	23S	30E	604664	3573868	 03/24/2017	03/28/2017	09/11/2017	380	179	JUSTIN MULLINS	1737			

Record Count: 2

PLSS Search:

Section(s): 21

Township: 23S

Range: 30E

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New Mexico Office of the State Engineer Wells with Well Log Information


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POD suffix indicates the
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right

(R=POD has
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O=orphaned,
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(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

POD Number	POD				q q q			X	Y	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number		
	Code	Subbasin	County	Source	6416	4	3											
C 02486		C	ED		3	2	3	19	23S	30E	601304	3572832*	 01/26/1996	01/29/1996	03/13/1996	350	COLLIS, ROBERT E. (LD)	1184

Record Count: 1

PLSS Search:

Section(s): 19

Township: 23S

Range: 30E

*UTM location was derived from PLSS - see Help

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Data Category:


Groundwater ▼

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Groundwater levels for New Mexico

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Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 321750103531101

Minimum number of levels = 1

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

USGS 321750103531101 23S.30E.21.12222

Available data for this site

Groundwater: Field measurements ▼

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Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°17'50", Longitude 103°53'11" NAD27

Land-surface elevation 3,169 feet above NAVD88

The depth of the well is 203 feet below land surface.

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

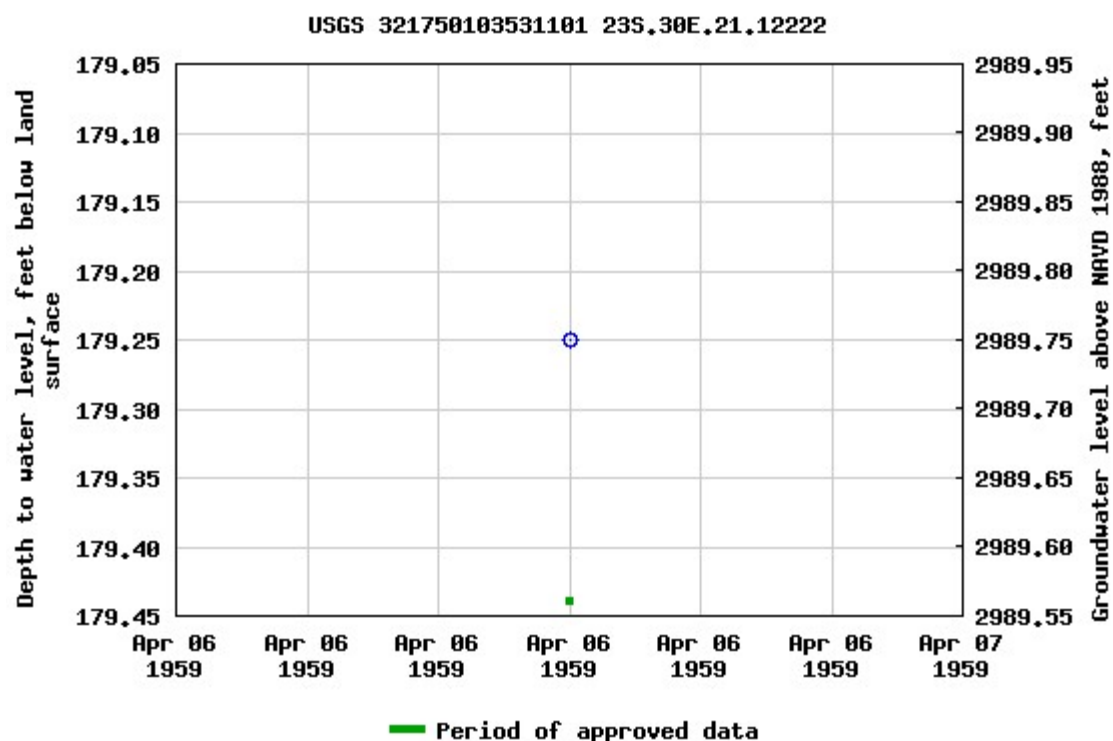
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Title: Groundwater for New Mexico: Water Levels

URL: [https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?](https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?site_no=321750103531101&agency_c...)



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0.64 0.55 nadww01



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Wells with Well Log Information

No wells found.

PLSS Search:

Section(s): 17 Township: 23S Range: 30E

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Agency code = usgs

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- 321742103552601

Minimum number of levels = 1

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USGS 321742103552601 23S.30E.19.123421

Available data for this site

Groundwater: Field measurements ▼

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°17'42", Longitude 103°55'26" NAD27

Land-surface elevation 3,034 feet above NAVD88

The depth of the well is 100 feet below land surface.

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

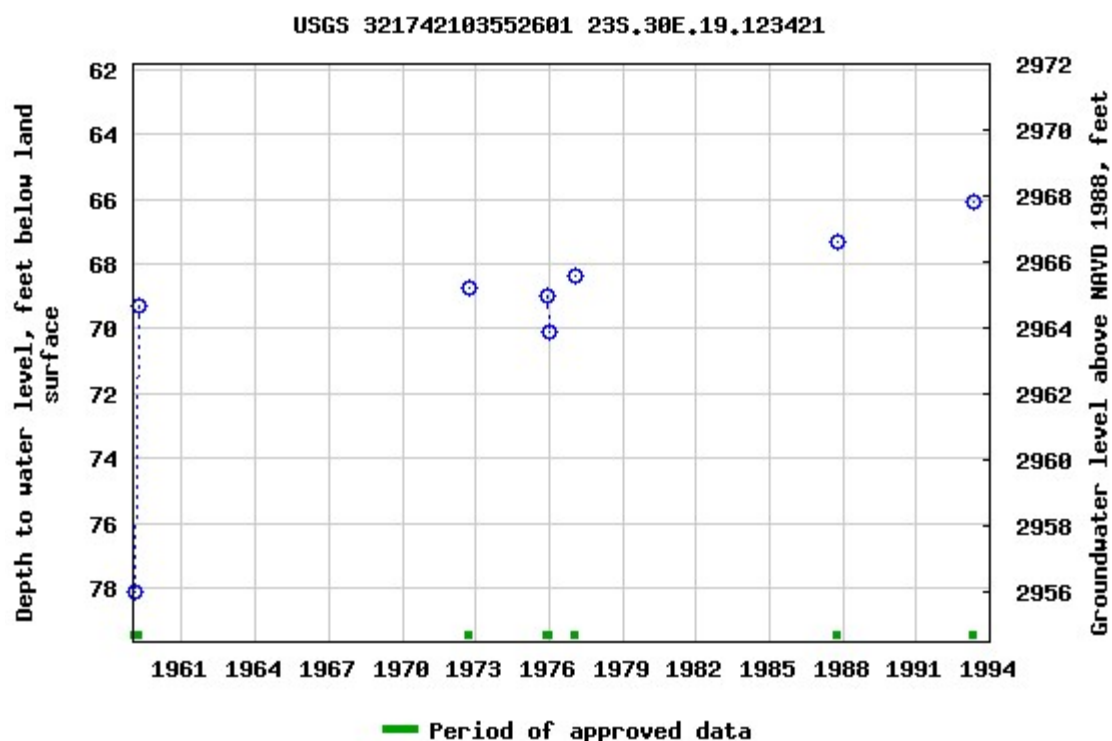
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1.25 0.55 nadww01

TABLES

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL
MEWBOURNE OIL COMPANY
FNR 17 20 B21P Federal COM 001
EDDY COUNTY, NEW MEXICO
UL J, SEC 17, T-23-S, R-30-E

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TOTAL TPH C ₆ -C ₃₆ (mg/Kg)	300	
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C ₆ -C ₁₀ (mg/Kg)	DRO C ₁₀ -C ₂₈ (mg/Kg)	EXT DRO C ₂₈ -C ₃₆ (mg/Kg)		CHLORIDE (mg/Kg)	FIELD CHLORIDE (mg/Kg)
Wall 1 North	Various	1/20/2020	Composite	<0.024	<0.048	<0.048	<0.096	<0.216	<4.8	<9.8	<49	<63.6	250	171
Wall 1 East	Various	1/20/2020	Composite	<0.023	<0.046	<0.046	0.092	<0.207	<4.6	<9.3	<47	<60.9	<60	181
Wall 1 West	Various	1/20/2020	Composite	<0.025	<0.050	<0.050	<0.099	<0.224	<5.0	<9.3	<47	<61.3	<60	181
Wall 2 East	Various	1/20/2020	Composite	<0.024	<0.049	<0.049	<0.098	<0.220	<4.9	<9.4	<47	<61.3	<60	156
Wall 2 West	Various	1/20/2020	Composite	<0.024	<0.048	<0.048	<0.096	<0.216	<4.8	<9.6	<48	<62.4	<60	<108
Wall 3 East	Various	1/20/2020	Composite	<0.024	<0.047	<0.047	<0.094	<0.212	<4.7	<9.8	<49	<63.5	<60	180
Wall 3 West	Various	1/20/2020	Composite	<0.025	<0.050	<0.050	<0.099	<0.224	<5.0	<7.9	<40	<52.9	<60	156
Wall 4 South	Various	1/20/2020	Composite	<0.025	<0.049	<0.049	<0.099	<0.222	<4.9	<9.5	<47	<61.4	<60	205
Wall 4 North	Various	1/20/2020	Composite	<0.024	<0.047	<0.047	<0.094	<0.212	<4.7	<8.1	<41	<53.8	<60	180
Wall 5 South	Various	1/21/2020	Composite	<0.025	<0.049	<0.049	<0.099	<0.221	<4.9	9.3	<42	9.3	120	<108
Wall 5 North	Various	1/21/2020	Composite	<0.024	<0.049	<0.049	<0.097	<0.219	<4.9	<9.7	<49	<63.6	<60	156
Wall 6 North	Various	1/21/2020	Composite	<0.024	<0.048	<0.048	<0.096	<0.216	<4.8	<9.5	<47	<61.3	<60	108
Wall 6 South	Various	1/21/2020	Composite	<0.024	<0.048	<0.048	<0.095	<0.215	<4.8	<9.1	<46	<59.9	<60	108
Wall 7 North	Various	1/21/2020	Composite	<0.023	<0.047	<0.047	0.093	<0.208	<4.7	<9.7	<48	<62.4	<60	108
Wall 7 South	Various	1/21/2020	Composite	<0.025	<0.050	<0.050	<0.099	<0.224	12	15	<42	27	<60	108
Wall 8 North	Various	1/21/2020	Composite	<0.024	<0.049	<0.049	<0.097	<0.219	<4.9	57	<48	57	260	108
Wall 8 South	Various	1/21/2020	Composite	<0.024	<0.048	<0.048	<0.096	<0.216	<4.8	<9.0	<45	<58.8	1,900	108
Wall 9 North	Various	1/21/2020	Composite	<0.024	<0.048	<0.048	<0.097	<0.217	<4.8	<9.1	<46	<59.9	<60	180
Wall 9 South	Various	1/21/2020	Composite	<0.025	<0.050	<0.050	<0.10	<0.225	<5.0	<9.3	<46	<60.3	<60	156
Wall 10 North	Various	1/21/2020	Composite	<0.025	<0.049	<0.049	<0.098	<0.221	<4.9	<9.6	<48	<62.5	<60	108
Wall 10 South	Various	1/21/2020	Composite	<0.023	<0.046	<0.046	0.092	<0.207	<4.6	<9.5	<48	<62.1	<60	108
Wall 11 North	Various	1/21/2020	Composite	<0.024	<0.049	<0.049	<0.097	<0.219	<4.9	14	<48	14	260	188
Wall 11 South	Various	1/21/2020	Composite	<0.025	<0.050	<0.050	<0.10	<0.225	15	34	<47	49	<60	<108
Wall 12 North	Various	1/21/2020	Composite	<0.024	<0.049	<0.049	<0.097	<0.219	<4.9	<10	<50	<64.9	<60	108
Wall 12 South	Various	1/21/2020	Composite	<0.025	<0.049	<0.049	<0.099	<0.222	<4.9	<9.8	<49	<62.7	<60	108
Wall 13 North	Various	1/21/2020	Composite	<0.023	<0.046	<0.046	0.093	<0.208	<4.6	<9.7	<49	<63.3	62	156
Wall 13 South	Various	1/21/2020	Composite	<0.025	<0.050	<0.050	<0.099	<0.224	<5.0	<9.9	<49	<63.9	240	190
Wall 14 North	Various	1/20/2020	Composite	<0.025	<0.050	<0.050	<0.10	<0.225	<5.0	61	<48	61	79	156
Wall 14 South	Various	1/20/2020	Composite	<0.024	<0.049	<0.049	<0.098	<0.220	<4.9	23	<49	23	<60	180
Wall 15 North	Various	1/20/2020	Composite	<0.025	<0.050	<0.050	<0.099	<0.224	<5.0	<10	<51	<66	<60	<108
Wall 15 South	Various	1/20/2020	Composite	<0.023	<0.046	<0.046	0.093	<0.208	<4.6	52	<47	52	<60	<108
Wall 16 North	Various	1/20/2020	Composite	<0.025	<0.050	<0.050	<0.099	<0.224	<5.0	<9.9	<49	<63.9	<60	156
Wall 16 South	Various	1/20/2020	Composite	<0.025	<0.049	<0.049	<0.098	<0.221	<4.9	14	<49	14	<60	<108
Wall 17 North	Various	1/20/2020	Composite	<0.025	<0.050	<0.050	<0.10	<0.225	<5.0	34	<48	34	<60	<108
Wall 17 South	Various	1/20/2020	Composite	<0.023	<0.046	<0.046	0.092	<0.207	5.9	<9.9	<49	5.9	<60	<108
Wall 18 North	Various	1/20/2020	Composite	<0.024	<0.048	<0.048	<0.097	<0.217	<4.8	<9.7	<49	<63.5	<60	<108
Wall 18 South	Various	1/20/2020	Composite	<0.025	<0.049	<0.049	<0.099	<0.222	<4.9	<9.6	<48	<62.5	<60	<108
Wall 19 North	Various	1/20/2020	Composite	<0.024	<0.048	<0.048	<0.097	<0.217	<4.8	<9.7	<49	<63.5	<60	<108
Wall 19 South	Various	1/20/2020	Composite	<0.024	<0.049	<0.049	<0.097	<0.219	<4.9	<9.9	<49	<63.8	<60	<108
Wall 19 West	Various	1/20/2020	Composite	<0.024	<0.047	<0.047	<0.095	<0.213	<4.7	<10	<50	<64.7	<60	NA
Floor 1	4'	1/20/2020	In-Situ	<0.024	<0.048	<0.048	<0.096	<0.216	46	5,400	1,300	6,746	5,500	3,304
Floor 2	4'	1/20/2020	In-Situ	<0.024	<0.049	<0.049	<0.097	<0.219	35	2,900	870	3,805	5,800	12,264
Floor 3	4'	1/20/2020	In-Situ	<0.024	<0.047	<0.047	0.23	0.23	8.2	830	220	1,058.2	6,900	4,226
Floor 4	4'	1/20/2020	In-Situ	<0.024	<0.048	<0.048	<0.097	<0.217	15	840	240	1,095	6,100	<108
Floor 5	4'	1/21/2020	In-Situ	<0.12	0.25	0.25	0.49	1.11	40	640	170	850	7,900	8,060
Floor 6	4'	1/21/2020	In-Situ	<0.024	<0.048	<0.048	<0.097	<0.217	<4.8	<9.6	<48	<62.4	6,300	5,480

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL
MEWBOURNE OIL COMPANY
FNR 17 20 B21P Federal COM 001
EDDY COUNTY, NEW MEXICO
UL J, SEC 17, T-23-S, R-30-E

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TOTAL TPH C ₆ -C ₃₆ (mg/Kg)	300 CHLORIDE (mg/Kg)	FIELD CHLORIDE (mg/Kg)
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C ₆ -C ₁₀ (mg/Kg)	DRO C ₁₀ -C ₂₈ (mg/Kg)	EXT DRO C ₂₈ -C ₃₆ (mg/Kg)			
Floor 7	4'	1/21/2020	In-Situ	<0.023	0.055	0.11	3.1	3.265	220	4,700	1,100	6,020	5,000	108
Floor 8	4'	1/21/2020	In-Situ	<0.023	<0.046	0.048	1.7	1.748	180	6,500	2,000	8,680	210	1,888
Floor 9	4'	1/21/2020	In-Situ	<0.023	<0.046	<0.046	0.093	<0.208	4.9	73	<39	77.9	1,400	888
Floor 10	4'	1/21/2020	In-Situ	<0.025	<0.049	<0.049	<0.098	<0.221	<4.9	260	87	347	5,100	5,420
Floor 11	4'	1/21/2020	In-Situ	<0.025	<0.049	<0.049	<0.098	<0.221	<4.9	200	74	274	9,300	12,029
Floor 12	4'	1/21/2020	In-Situ	<0.024	0.10	0.25	5.1	5.36	94	9,400	1,800	11,294	7,000	5,420
Floor 13	4'	1/21/2020	In-Situ	<0.025	<0.049	<0.049	<0.099	<0.222	<4.9	66	<47	66	6,800	5,420
Floor 14	4'	1/20/2020	In-Situ	<0.025	<0.050	<0.050	<0.10	<0.225	5.9	73	<49	78.9	77	<108
Floor 15	4'	1/20/2020	In-Situ	<0.025	<0.049	<0.049	<0.098	<0.221	<4.9	<9.6	<48	<62.5	<60	NA
Floor 16	4'	1/20/2020	In-Situ	<0.024	<0.049	<0.049	<0.097	<0.219	<4.9	<9.8	<49	<62.7	<60	205
Floor 17	4'	1/20/2020	In-Situ	<0.023	<0.046	<0.046	0.093	<0.208	<4.6	<9.9	<50	<64.5	<60	242
Floor 18	4'	1/20/2020	In-Situ	<0.025	<0.050	<0.050	<0.099	<0.224	18	1700	430	2,148	<60	246
Floor 19	4'	1/20/2020	In-Situ	<0.023	<0.046	<0.046	0.093	<0.208	<4.6	<8.4	<42	<55.0	<60	205
NMOCD Regulatory Standard				10				50				2,500	600	

APPENDICES

APPENDIX – A

Photo Documentation

FNR 17-20 W2IP Federal COM #3H

Unit Letter J, Section 17, T23S, R30E



Release area facing west

12/5/19



Release area facing southwest

12/5/19



Release area facing southeast

12/5/19



Excavation facing south

1/20/20

FNR 17-20 W2IP Federal COM #3H

Unit Letter J, Section 17, T23S, R30E



Excavation facing west

1/20/20



Excavation facing north

1/20/20



Backfilled area facing west

1/31/20



Backfilled area facing west

1/31/20

APPENDIX – B

Analytical Reports



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

January 30, 2020

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

RE: FNR 17 20 B21P Federal Com 1

OrderNo.: 2001907

Dear Robbie Runnels:

Hall Environmental Analysis Laboratory received 59 sample(s) on 1/23/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 1 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 8:50:00 AM

Lab ID: 2001907-001

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	250	60		mg/Kg	20	1/24/2020 2:37:08 PM	50025
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/24/2020 10:18:33 PM	50008
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/24/2020 10:18:33 PM	50008
Surr: DNOP	81.3	55.1-146		%Rec	1	1/24/2020 10:18:33 PM	50008
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/25/2020 7:20:56 AM	50005
Surr: BFB	81.1	66.6-105		%Rec	1	1/25/2020 7:20:56 AM	50005
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/25/2020 7:20:56 AM	50005
Toluene	ND	0.048		mg/Kg	1	1/25/2020 7:20:56 AM	50005
Ethylbenzene	ND	0.048		mg/Kg	1	1/25/2020 7:20:56 AM	50005
Xylenes, Total	ND	0.096		mg/Kg	1	1/25/2020 7:20:56 AM	50005
Surr: 4-Bromofluorobenzene	90.0	80-120		%Rec	1	1/25/2020 7:20:56 AM	50005

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 1 East

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 8:55:00 AM

Lab ID: 2001907-002

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	1/24/2020 2:49:29 PM	50025
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	1/24/2020 10:27:29 PM	50008
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/24/2020 10:27:29 PM	50008
Surr: DNOP	84.1	55.1-146		%Rec	1	1/24/2020 10:27:29 PM	50008
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/26/2020 5:50:31 PM	50005
Surr: BFB	86.5	66.6-105		%Rec	1	1/26/2020 5:50:31 PM	50005
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	1/26/2020 5:50:31 PM	50005
Toluene	ND	0.046		mg/Kg	1	1/26/2020 5:50:31 PM	50005
Ethylbenzene	ND	0.046		mg/Kg	1	1/26/2020 5:50:31 PM	50005
Xylenes, Total	ND	0.092		mg/Kg	1	1/26/2020 5:50:31 PM	50005
Surr: 4-Bromofluorobenzene	96.3	80-120		%Rec	1	1/26/2020 5:50:31 PM	50005

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 1 West

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 9:00:00 AM

Lab ID: 2001907-003

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	1/24/2020 3:01:50 PM	50025
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	1/24/2020 10:36:24 PM	50008
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/24/2020 10:36:24 PM	50008
Surr: DNOP	78.4	55.1-146		%Rec	1	1/24/2020 10:36:24 PM	50008
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/26/2020 6:13:59 PM	50005
Surr: BFB	83.9	66.6-105		%Rec	1	1/26/2020 6:13:59 PM	50005
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/26/2020 6:13:59 PM	50005
Toluene	ND	0.050		mg/Kg	1	1/26/2020 6:13:59 PM	50005
Ethylbenzene	ND	0.050		mg/Kg	1	1/26/2020 6:13:59 PM	50005
Xylenes, Total	ND	0.099		mg/Kg	1	1/26/2020 6:13:59 PM	50005
Surr: 4-Bromofluorobenzene	92.9	80-120		%Rec	1	1/26/2020 6:13:59 PM	50005

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 1

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 9:05:00 AM

Lab ID: 2001907-004

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	5500	300		mg/Kg	100	1/27/2020 6:09:53 PM	50025
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	5400	99		mg/Kg	10	1/28/2020 1:17:20 PM	50008
Motor Oil Range Organics (MRO)	1300	500		mg/Kg	10	1/28/2020 1:17:20 PM	50008
Surr: DNOP	0	55.1-146	S	%Rec	10	1/28/2020 1:17:20 PM	50008
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	46	4.8		mg/Kg	1	1/26/2020 6:37:31 PM	50005
Surr: BFB	343	66.6-105	S	%Rec	1	1/26/2020 6:37:31 PM	50005
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/26/2020 6:37:31 PM	50005
Toluene	ND	0.048		mg/Kg	1	1/26/2020 6:37:31 PM	50005
Ethylbenzene	0.089	0.048		mg/Kg	1	1/26/2020 6:37:31 PM	50005
Xylenes, Total	1.3	0.096		mg/Kg	1	1/26/2020 6:37:31 PM	50005
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	1/26/2020 6:37:31 PM	50005

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 2 East

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 9:10:00 AM

Lab ID: 2001907-005

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	1/24/2020 3:51:15 PM	50025
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	1/27/2020 1:27:29 PM	50008
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/27/2020 1:27:29 PM	50008
Surr: DNOP	85.3	55.1-146		%Rec	1	1/27/2020 1:27:29 PM	50008
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/26/2020 7:00:51 PM	50005
Surr: BFB	86.4	66.6-105		%Rec	1	1/26/2020 7:00:51 PM	50005
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/26/2020 7:00:51 PM	50005
Toluene	ND	0.049		mg/Kg	1	1/26/2020 7:00:51 PM	50005
Ethylbenzene	ND	0.049		mg/Kg	1	1/26/2020 7:00:51 PM	50005
Xylenes, Total	ND	0.098		mg/Kg	1	1/26/2020 7:00:51 PM	50005
Surr: 4-Bromofluorobenzene	94.9	80-120		%Rec	1	1/26/2020 7:00:51 PM	50005

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 2 West

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 9:15:00 AM

Lab ID: 2001907-006

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	1/24/2020 4:03:36 PM	50025
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	1/27/2020 1:49:23 PM	50008
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/27/2020 1:49:23 PM	50008
Surr: DNOP	84.4	55.1-146		%Rec	1	1/27/2020 1:49:23 PM	50008
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/26/2020 7:24:19 PM	50005
Surr: BFB	88.7	66.6-105		%Rec	1	1/26/2020 7:24:19 PM	50005
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/26/2020 7:24:19 PM	50005
Toluene	ND	0.048		mg/Kg	1	1/26/2020 7:24:19 PM	50005
Ethylbenzene	ND	0.048		mg/Kg	1	1/26/2020 7:24:19 PM	50005
Xylenes, Total	ND	0.096		mg/Kg	1	1/26/2020 7:24:19 PM	50005
Surr: 4-Bromofluorobenzene	96.8	80-120		%Rec	1	1/26/2020 7:24:19 PM	50005

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 2

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 9:20:00 AM

Lab ID: 2001907-007

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	5800	300		mg/Kg	100	1/27/2020 6:22:15 PM	50025
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	2900	100		mg/Kg	10	1/27/2020 2:11:13 PM	50008
Motor Oil Range Organics (MRO)	870	500		mg/Kg	10	1/27/2020 2:11:13 PM	50008
Surr: DNOP	0	55.1-146	S	%Rec	10	1/27/2020 2:11:13 PM	50008
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	35	4.9		mg/Kg	1	1/26/2020 7:47:44 PM	50005
Surr: BFB	267	66.6-105	S	%Rec	1	1/26/2020 7:47:44 PM	50005
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/26/2020 7:47:44 PM	50005
Toluene	ND	0.049		mg/Kg	1	1/26/2020 7:47:44 PM	50005
Ethylbenzene	0.078	0.049		mg/Kg	1	1/26/2020 7:47:44 PM	50005
Xylenes, Total	1.1	0.097		mg/Kg	1	1/26/2020 7:47:44 PM	50005
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	1/26/2020 7:47:44 PM	50005

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 3 East

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 9:25:00 AM

Lab ID: 2001907-008

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	1/24/2020 3:24:48 PM	50029
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/24/2020 11:21:01 PM	50008
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/24/2020 11:21:01 PM	50008
Surr: DNOP	77.0	55.1-146		%Rec	1	1/24/2020 11:21:01 PM	50008
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/26/2020 8:11:11 PM	50005
Surr: BFB	87.5	66.6-105		%Rec	1	1/26/2020 8:11:11 PM	50005
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/26/2020 8:11:11 PM	50005
Toluene	ND	0.047		mg/Kg	1	1/26/2020 8:11:11 PM	50005
Ethylbenzene	ND	0.047		mg/Kg	1	1/26/2020 8:11:11 PM	50005
Xylenes, Total	ND	0.094		mg/Kg	1	1/26/2020 8:11:11 PM	50005
Surr: 4-Bromofluorobenzene	96.3	80-120		%Rec	1	1/26/2020 8:11:11 PM	50005

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 3 West

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 9:30:00 AM

Lab ID: 2001907-009

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	1/24/2020 4:02:02 PM	50029
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	7.9		mg/Kg	1	1/25/2020 12:14:33 AM	50010
Motor Oil Range Organics (MRO)	ND	40		mg/Kg	1	1/25/2020 12:14:33 AM	50010
Surr: DNOP	87.6	55.1-146		%Rec	1	1/25/2020 12:14:33 AM	50010
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/26/2020 8:34:32 PM	50005
Surr: BFB	83.7	66.6-105		%Rec	1	1/26/2020 8:34:32 PM	50005
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/26/2020 8:34:32 PM	50005
Toluene	ND	0.050		mg/Kg	1	1/26/2020 8:34:32 PM	50005
Ethylbenzene	ND	0.050		mg/Kg	1	1/26/2020 8:34:32 PM	50005
Xylenes, Total	ND	0.099		mg/Kg	1	1/26/2020 8:34:32 PM	50005
Surr: 4-Bromofluorobenzene	92.4	80-120		%Rec	1	1/26/2020 8:34:32 PM	50005

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 3

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 9:35:00 AM

Lab ID: 2001907-010

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	6900	300		mg/Kg	100	1/27/2020 7:36:22 PM	50029
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	830	8.8		mg/Kg	1	1/25/2020 12:41:17 AM	50010
Motor Oil Range Organics (MRO)	220	44		mg/Kg	1	1/25/2020 12:41:17 AM	50010
Surr: DNOP	102	55.1-146		%Rec	1	1/25/2020 12:41:17 AM	50010
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	8.2	4.7		mg/Kg	1	1/26/2020 10:07:58 PM	50005
Surr: BFB	134	66.6-105	S	%Rec	1	1/26/2020 10:07:58 PM	50005
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/26/2020 10:07:58 PM	50005
Toluene	ND	0.047		mg/Kg	1	1/26/2020 10:07:58 PM	50005
Ethylbenzene	ND	0.047		mg/Kg	1	1/26/2020 10:07:58 PM	50005
Xylenes, Total	0.23	0.094		mg/Kg	1	1/26/2020 10:07:58 PM	50005
Surr: 4-Bromofluorobenzene	95.2	80-120		%Rec	1	1/26/2020 10:07:58 PM	50005

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 4 South

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 9:40:00 AM

Lab ID: 2001907-011

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	1/24/2020 4:26:51 PM	50029
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/25/2020 2:01:35 PM	50007
Surr: BFB	93.3	70-130		%Rec	1	1/25/2020 2:01:35 PM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	1/25/2020 12:50:12 AM	50010
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/25/2020 12:50:12 AM	50010
Surr: DNOP	46.2	55.1-146	S	%Rec	1	1/25/2020 12:50:12 AM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	1/25/2020 2:01:35 PM	50007
Toluene	ND	0.049		mg/Kg	1	1/25/2020 2:01:35 PM	50007
Ethylbenzene	ND	0.049		mg/Kg	1	1/25/2020 2:01:35 PM	50007
Xylenes, Total	ND	0.099		mg/Kg	1	1/25/2020 2:01:35 PM	50007
Surr: 1,2-Dichloroethane-d4	84.8	70-130		%Rec	1	1/25/2020 2:01:35 PM	50007
Surr: 4-Bromofluorobenzene	87.2	70-130		%Rec	1	1/25/2020 2:01:35 PM	50007
Surr: Dibromofluoromethane	93.7	70-130		%Rec	1	1/25/2020 2:01:35 PM	50007
Surr: Toluene-d8	93.8	70-130		%Rec	1	1/25/2020 2:01:35 PM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 4 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 9:45:00 AM

Lab ID: 2001907-012

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	1/24/2020 4:39:15 PM	50029
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/25/2020 3:27:06 PM	50007
Surr: BFB	91.4	70-130		%Rec	1	1/25/2020 3:27:06 PM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.1		mg/Kg	1	1/25/2020 12:59:06 AM	50010
Motor Oil Range Organics (MRO)	ND	41		mg/Kg	1	1/25/2020 12:59:06 AM	50010
Surr: DNOP	76.9	55.1-146		%Rec	1	1/25/2020 12:59:06 AM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	1/25/2020 3:27:06 PM	50007
Toluene	ND	0.047		mg/Kg	1	1/25/2020 3:27:06 PM	50007
Ethylbenzene	ND	0.047		mg/Kg	1	1/25/2020 3:27:06 PM	50007
Xylenes, Total	ND	0.094		mg/Kg	1	1/25/2020 3:27:06 PM	50007
Surr: 1,2-Dichloroethane-d4	89.2	70-130		%Rec	1	1/25/2020 3:27:06 PM	50007
Surr: 4-Bromofluorobenzene	87.1	70-130		%Rec	1	1/25/2020 3:27:06 PM	50007
Surr: Dibromofluoromethane	92.3	70-130		%Rec	1	1/25/2020 3:27:06 PM	50007
Surr: Toluene-d8	95.4	70-130		%Rec	1	1/25/2020 3:27:06 PM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 4

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 9:50:00 AM

Lab ID: 2001907-013

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	6100	300		mg/Kg	100	1/27/2020 7:48:43 PM	50029
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	15	4.8		mg/Kg	1	1/25/2020 4:52:57 PM	50007
Surr: BFB	87.8	70-130		%Rec	1	1/25/2020 4:52:57 PM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	840	9.6		mg/Kg	1	1/25/2020 1:08:02 AM	50010
Motor Oil Range Organics (MRO)	240	48		mg/Kg	1	1/25/2020 1:08:02 AM	50010
Surr: DNOP	142	55.1-146		%Rec	1	1/25/2020 1:08:02 AM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	1/25/2020 4:52:57 PM	50007
Toluene	ND	0.048		mg/Kg	1	1/25/2020 4:52:57 PM	50007
Ethylbenzene	ND	0.048		mg/Kg	1	1/25/2020 4:52:57 PM	50007
Xylenes, Total	ND	0.097		mg/Kg	1	1/25/2020 4:52:57 PM	50007
Surr: 1,2-Dichloroethane-d4	93.6	70-130		%Rec	1	1/25/2020 4:52:57 PM	50007
Surr: 4-Bromofluorobenzene	71.7	70-130		%Rec	1	1/25/2020 4:52:57 PM	50007
Surr: Dibromofluoromethane	97.8	70-130		%Rec	1	1/25/2020 4:52:57 PM	50007
Surr: Toluene-d8	95.3	70-130		%Rec	1	1/25/2020 4:52:57 PM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 5 South

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 8:10:00 AM

Lab ID: 2001907-014

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	120	60		mg/Kg	20	1/24/2020 5:28:55 PM	50029
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/25/2020 5:21:35 PM	50007
Surr: BFB	94.2	70-130		%Rec	1	1/25/2020 5:21:35 PM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	9.3	8.4		mg/Kg	1	1/25/2020 1:16:56 AM	50010
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	1/25/2020 1:16:56 AM	50010
Surr: DNOP	48.0	55.1-146	S	%Rec	1	1/25/2020 1:16:56 AM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	1/25/2020 5:21:35 PM	50007
Toluene	ND	0.049		mg/Kg	1	1/25/2020 5:21:35 PM	50007
Ethylbenzene	ND	0.049		mg/Kg	1	1/25/2020 5:21:35 PM	50007
Xylenes, Total	ND	0.098		mg/Kg	1	1/25/2020 5:21:35 PM	50007
Surr: 1,2-Dichloroethane-d4	88.5	70-130		%Rec	1	1/25/2020 5:21:35 PM	50007
Surr: 4-Bromofluorobenzene	86.5	70-130		%Rec	1	1/25/2020 5:21:35 PM	50007
Surr: Dibromofluoromethane	92.5	70-130		%Rec	1	1/25/2020 5:21:35 PM	50007
Surr: Toluene-d8	95.0	70-130		%Rec	1	1/25/2020 5:21:35 PM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 5 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 8:15:00 AM

Lab ID: 2001907-015

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	1/24/2020 5:41:20 PM	50029
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/25/2020 5:50:10 PM	50007
Surr: BFB	93.2	70-130		%Rec	1	1/25/2020 5:50:10 PM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/25/2020 1:25:51 AM	50010
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/25/2020 1:25:51 AM	50010
Surr: DNOP	39.0	55.1-146	S	%Rec	1	1/25/2020 1:25:51 AM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	1/25/2020 5:50:10 PM	50007
Toluene	ND	0.049		mg/Kg	1	1/25/2020 5:50:10 PM	50007
Ethylbenzene	ND	0.049		mg/Kg	1	1/25/2020 5:50:10 PM	50007
Xylenes, Total	ND	0.097		mg/Kg	1	1/25/2020 5:50:10 PM	50007
Surr: 1,2-Dichloroethane-d4	89.9	70-130		%Rec	1	1/25/2020 5:50:10 PM	50007
Surr: 4-Bromofluorobenzene	89.1	70-130		%Rec	1	1/25/2020 5:50:10 PM	50007
Surr: Dibromofluoromethane	90.7	70-130		%Rec	1	1/25/2020 5:50:10 PM	50007
Surr: Toluene-d8	96.1	70-130		%Rec	1	1/25/2020 5:50:10 PM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 5

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 8:20:00 AM

Lab ID: 2001907-016

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	7900	300		mg/Kg	100	1/27/2020 8:01:03 PM	50029
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	40	25		mg/Kg	5	1/25/2020 6:18:42 PM	50007
Surr: BFB	90.4	70-130		%Rec	5	1/25/2020 6:18:42 PM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	640	8.7		mg/Kg	1	1/25/2020 1:34:46 AM	50010
Motor Oil Range Organics (MRO)	170	44		mg/Kg	1	1/25/2020 1:34:46 AM	50010
Surr: DNOP	87.2	55.1-146		%Rec	1	1/25/2020 1:34:46 AM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.12		mg/Kg	5	1/25/2020 6:18:42 PM	50007
Toluene	ND	0.25		mg/Kg	5	1/25/2020 6:18:42 PM	50007
Ethylbenzene	ND	0.25		mg/Kg	5	1/25/2020 6:18:42 PM	50007
Xylenes, Total	ND	0.49		mg/Kg	5	1/25/2020 6:18:42 PM	50007
Surr: 1,2-Dichloroethane-d4	91.6	70-130		%Rec	5	1/25/2020 6:18:42 PM	50007
Surr: 4-Bromofluorobenzene	81.1	70-130		%Rec	5	1/25/2020 6:18:42 PM	50007
Surr: Dibromofluoromethane	92.4	70-130		%Rec	5	1/25/2020 6:18:42 PM	50007
Surr: Toluene-d8	93.0	70-130		%Rec	5	1/25/2020 6:18:42 PM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 6 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 8:25:00 AM

Lab ID: 2001907-017

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	1/24/2020 6:06:08 PM	50029
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/25/2020 6:47:12 PM	50007
Surr: BFB	93.3	70-130		%Rec	1	1/25/2020 6:47:12 PM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	1/25/2020 1:43:42 AM	50010
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/25/2020 1:43:42 AM	50010
Surr: DNOP	50.3	55.1-146	S	%Rec	1	1/25/2020 1:43:42 AM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	1/25/2020 6:47:12 PM	50007
Toluene	ND	0.048		mg/Kg	1	1/25/2020 6:47:12 PM	50007
Ethylbenzene	ND	0.048		mg/Kg	1	1/25/2020 6:47:12 PM	50007
Xylenes, Total	ND	0.096		mg/Kg	1	1/25/2020 6:47:12 PM	50007
Surr: 1,2-Dichloroethane-d4	90.6	70-130		%Rec	1	1/25/2020 6:47:12 PM	50007
Surr: 4-Bromofluorobenzene	88.4	70-130		%Rec	1	1/25/2020 6:47:12 PM	50007
Surr: Dibromofluoromethane	93.6	70-130		%Rec	1	1/25/2020 6:47:12 PM	50007
Surr: Toluene-d8	94.6	70-130		%Rec	1	1/25/2020 6:47:12 PM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 6 South

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 8:30:00 AM

Lab ID: 2001907-018

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	1/24/2020 8:35:16 PM	50042
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/25/2020 7:15:42 PM	50007
Surr: BFB	92.3	70-130		%Rec	1	1/25/2020 7:15:42 PM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	1/25/2020 1:52:39 AM	50010
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/25/2020 1:52:39 AM	50010
Surr: DNOP	64.4	55.1-146		%Rec	1	1/25/2020 1:52:39 AM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	1/25/2020 7:15:42 PM	50007
Toluene	ND	0.048		mg/Kg	1	1/25/2020 7:15:42 PM	50007
Ethylbenzene	ND	0.048		mg/Kg	1	1/25/2020 7:15:42 PM	50007
Xylenes, Total	ND	0.095		mg/Kg	1	1/25/2020 7:15:42 PM	50007
Surr: 1,2-Dichloroethane-d4	89.6	70-130		%Rec	1	1/25/2020 7:15:42 PM	50007
Surr: 4-Bromofluorobenzene	91.8	70-130		%Rec	1	1/25/2020 7:15:42 PM	50007
Surr: Dibromofluoromethane	93.6	70-130		%Rec	1	1/25/2020 7:15:42 PM	50007
Surr: Toluene-d8	93.2	70-130		%Rec	1	1/25/2020 7:15:42 PM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 6

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 8:35:00 AM

Lab ID: 2001907-019

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	6300	300		mg/Kg	100	1/27/2020 6:34:37 PM	50042
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/25/2020 7:44:12 PM	50007
Surr: BFB	93.5	70-130		%Rec	1	1/25/2020 7:44:12 PM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	1/25/2020 2:01:37 AM	50010
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/25/2020 2:01:37 AM	50010
Surr: DNOP	86.6	55.1-146		%Rec	1	1/25/2020 2:01:37 AM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	1/25/2020 7:44:12 PM	50007
Toluene	ND	0.048		mg/Kg	1	1/25/2020 7:44:12 PM	50007
Ethylbenzene	ND	0.048		mg/Kg	1	1/25/2020 7:44:12 PM	50007
Xylenes, Total	ND	0.097		mg/Kg	1	1/25/2020 7:44:12 PM	50007
Surr: 1,2-Dichloroethane-d4	85.1	70-130		%Rec	1	1/25/2020 7:44:12 PM	50007
Surr: 4-Bromofluorobenzene	92.1	70-130		%Rec	1	1/25/2020 7:44:12 PM	50007
Surr: Dibromofluoromethane	94.9	70-130		%Rec	1	1/25/2020 7:44:12 PM	50007
Surr: Toluene-d8	93.5	70-130		%Rec	1	1/25/2020 7:44:12 PM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 7 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 8:40:00 AM

Lab ID: 2001907-020

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	1/24/2020 9:49:18 PM	50042
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/25/2020 8:12:43 PM	50007
Surr: BFB	91.4	70-130		%Rec	1	1/25/2020 8:12:43 PM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/25/2020 2:10:35 AM	50010
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/25/2020 2:10:35 AM	50010
Surr: DNOP	47.8	55.1-146	S	%Rec	1	1/25/2020 2:10:35 AM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.023		mg/Kg	1	1/25/2020 8:12:43 PM	50007
Toluene	ND	0.047		mg/Kg	1	1/25/2020 8:12:43 PM	50007
Ethylbenzene	ND	0.047		mg/Kg	1	1/25/2020 8:12:43 PM	50007
Xylenes, Total	ND	0.093		mg/Kg	1	1/25/2020 8:12:43 PM	50007
Surr: 1,2-Dichloroethane-d4	91.3	70-130		%Rec	1	1/25/2020 8:12:43 PM	50007
Surr: 4-Bromofluorobenzene	88.5	70-130		%Rec	1	1/25/2020 8:12:43 PM	50007
Surr: Dibromofluoromethane	93.0	70-130		%Rec	1	1/25/2020 8:12:43 PM	50007
Surr: Toluene-d8	93.6	70-130		%Rec	1	1/25/2020 8:12:43 PM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Well 7 South

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 8:45:00 AM

Lab ID: 2001907-021

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	1/24/2020 10:01:38 PM	50042
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	12	5.0		mg/Kg	1	1/25/2020 8:41:13 PM	50007
Surr: BFB	90.6	70-130		%Rec	1	1/25/2020 8:41:13 PM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	15	8.4		mg/Kg	1	1/25/2020 2:19:44 AM	50010
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	1/25/2020 2:19:44 AM	50010
Surr: DNOP	67.4	55.1-146		%Rec	1	1/25/2020 2:19:44 AM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	1/25/2020 8:41:13 PM	50007
Toluene	ND	0.050		mg/Kg	1	1/25/2020 8:41:13 PM	50007
Ethylbenzene	ND	0.050		mg/Kg	1	1/25/2020 8:41:13 PM	50007
Xylenes, Total	0.26	0.099		mg/Kg	1	1/25/2020 8:41:13 PM	50007
Surr: 1,2-Dichloroethane-d4	87.9	70-130		%Rec	1	1/25/2020 8:41:13 PM	50007
Surr: 4-Bromofluorobenzene	85.9	70-130		%Rec	1	1/25/2020 8:41:13 PM	50007
Surr: Dibromofluoromethane	95.0	70-130		%Rec	1	1/25/2020 8:41:13 PM	50007
Surr: Toluene-d8	94.4	70-130		%Rec	1	1/25/2020 8:41:13 PM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 7

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 8:50:00 AM

Lab ID: 2001907-022

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	5000	150		mg/Kg	50	1/27/2020 6:46:58 PM	50042
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	220	4.7		mg/Kg	1	1/25/2020 9:09:43 PM	50007
Surr: BFB	124	70-130		%Rec	1	1/25/2020 9:09:43 PM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	4700	96		mg/Kg	10	1/28/2020 1:41:36 PM	50010
Motor Oil Range Organics (MRO)	1100	480		mg/Kg	10	1/28/2020 1:41:36 PM	50010
Surr: DNOP	0	55.1-146	S	%Rec	10	1/28/2020 1:41:36 PM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.023		mg/Kg	1	1/25/2020 9:09:43 PM	50007
Toluene	0.055	0.047		mg/Kg	1	1/25/2020 9:09:43 PM	50007
Ethylbenzene	0.11	0.047		mg/Kg	1	1/25/2020 9:09:43 PM	50007
Xylenes, Total	3.1	0.093		mg/Kg	1	1/25/2020 9:09:43 PM	50007
Surr: 1,2-Dichloroethane-d4	99.6	70-130		%Rec	1	1/25/2020 9:09:43 PM	50007
Surr: 4-Bromofluorobenzene	36.3	70-130	S	%Rec	1	1/25/2020 9:09:43 PM	50007
Surr: Dibromofluoromethane	93.7	70-130		%Rec	1	1/25/2020 9:09:43 PM	50007
Surr: Toluene-d8	94.6	70-130		%Rec	1	1/25/2020 9:09:43 PM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 8 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 8:55:00 AM

Lab ID: 2001907-023

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	260	60		mg/Kg	20	1/24/2020 10:26:19 PM	50042
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/28/2020 3:07:52 PM	50007
Surr: BFB	94.5	70-130		%Rec	1	1/28/2020 3:07:52 PM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	57	9.6		mg/Kg	1	1/25/2020 2:37:58 AM	50010
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/25/2020 2:37:58 AM	50010
Surr: DNOP	51.3	55.1-146	S	%Rec	1	1/25/2020 2:37:58 AM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	1/25/2020 9:38:14 PM	50007
Toluene	ND	0.049		mg/Kg	1	1/25/2020 9:38:14 PM	50007
Ethylbenzene	ND	0.049		mg/Kg	1	1/25/2020 9:38:14 PM	50007
Xylenes, Total	ND	0.097		mg/Kg	1	1/25/2020 9:38:14 PM	50007
Surr: 1,2-Dichloroethane-d4	94.5	70-130		%Rec	1	1/25/2020 9:38:14 PM	50007
Surr: 4-Bromofluorobenzene	83.3	70-130		%Rec	1	1/25/2020 9:38:14 PM	50007
Surr: Dibromofluoromethane	95.7	70-130		%Rec	1	1/25/2020 9:38:14 PM	50007
Surr: Toluene-d8	99.4	70-130		%Rec	1	1/25/2020 9:38:14 PM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 8 South

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 9:00:00 AM

Lab ID: 2001907-024

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1900	60		mg/Kg	20	1/24/2020 11:03:23 PM	50042
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/25/2020 10:06:41 PM	50007
Surr: BFB	92.6	70-130		%Rec	1	1/25/2020 10:06:41 PM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	1/25/2020 2:47:03 AM	50010
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	1/25/2020 2:47:03 AM	50010
Surr: DNOP	43.7	55.1-146	S	%Rec	1	1/25/2020 2:47:03 AM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	1/25/2020 10:06:41 PM	50007
Toluene	ND	0.048		mg/Kg	1	1/25/2020 10:06:41 PM	50007
Ethylbenzene	ND	0.048		mg/Kg	1	1/25/2020 10:06:41 PM	50007
Xylenes, Total	ND	0.096		mg/Kg	1	1/25/2020 10:06:41 PM	50007
Surr: 1,2-Dichloroethane-d4	90.0	70-130		%Rec	1	1/25/2020 10:06:41 PM	50007
Surr: 4-Bromofluorobenzene	90.2	70-130		%Rec	1	1/25/2020 10:06:41 PM	50007
Surr: Dibromofluoromethane	95.2	70-130		%Rec	1	1/25/2020 10:06:41 PM	50007
Surr: Toluene-d8	93.6	70-130		%Rec	1	1/25/2020 10:06:41 PM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 8

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 9:05:00 AM

Lab ID: 2001907-025

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	210	60		mg/Kg	20	1/24/2020 11:15:44 PM	50042
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	180	4.6		mg/Kg	1	1/25/2020 10:35:07 PM	50007
Surr: BFB	130	70-130		%Rec	1	1/25/2020 10:35:07 PM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	6500	190		mg/Kg	20	1/27/2020 3:17:17 PM	50010
Motor Oil Range Organics (MRO)	2000	950		mg/Kg	20	1/27/2020 3:17:17 PM	50010
Surr: DNOP	0	55.1-146	S	%Rec	20	1/27/2020 3:17:17 PM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.023		mg/Kg	1	1/25/2020 10:35:07 PM	50007
Toluene	ND	0.046		mg/Kg	1	1/25/2020 10:35:07 PM	50007
Ethylbenzene	0.048	0.046		mg/Kg	1	1/25/2020 10:35:07 PM	50007
Xylenes, Total	1.7	0.093		mg/Kg	1	1/25/2020 10:35:07 PM	50007
Surr: 1,2-Dichloroethane-d4	95.2	70-130		%Rec	1	1/25/2020 10:35:07 PM	50007
Surr: 4-Bromofluorobenzene	35.6	70-130	S	%Rec	1	1/25/2020 10:35:07 PM	50007
Surr: Dibromofluoromethane	96.9	70-130		%Rec	1	1/25/2020 10:35:07 PM	50007
Surr: Toluene-d8	94.2	70-130		%Rec	1	1/25/2020 10:35:07 PM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 9 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 9:10:00 AM

Lab ID: 2001907-026

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	1/24/2020 11:28:05 PM	50042
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/27/2020 3:11:05 PM	50007
Surr: BFB	93.8	70-130		%Rec	1	1/27/2020 3:11:05 PM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	1/27/2020 3:39:13 PM	50010
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/27/2020 3:39:13 PM	50010
Surr: DNOP	76.5	55.1-146		%Rec	1	1/27/2020 3:39:13 PM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	1/25/2020 11:03:32 PM	50007
Toluene	ND	0.048		mg/Kg	1	1/25/2020 11:03:32 PM	50007
Ethylbenzene	ND	0.048		mg/Kg	1	1/25/2020 11:03:32 PM	50007
Xylenes, Total	ND	0.097		mg/Kg	1	1/25/2020 11:03:32 PM	50007
Surr: 1,2-Dichloroethane-d4	90.1	70-130		%Rec	1	1/25/2020 11:03:32 PM	50007
Surr: 4-Bromofluorobenzene	87.4	70-130		%Rec	1	1/25/2020 11:03:32 PM	50007
Surr: Dibromofluoromethane	95.3	70-130		%Rec	1	1/25/2020 11:03:32 PM	50007
Surr: Toluene-d8	98.2	70-130		%Rec	1	1/25/2020 11:03:32 PM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 9 South

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 9:15:00 AM

Lab ID: 2001907-027

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	1/24/2020 11:40:25 PM	50042
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/26/2020 1:53:36 AM	50007
Surr: BFB	92.8	70-130		%Rec	1	1/26/2020 1:53:36 AM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	1/25/2020 3:14:11 AM	50010
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/25/2020 3:14:11 AM	50010
Surr: DNOP	28.3	55.1-146	S	%Rec	1	1/25/2020 3:14:11 AM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	1/26/2020 1:53:36 AM	50007
Toluene	ND	0.050		mg/Kg	1	1/26/2020 1:53:36 AM	50007
Ethylbenzene	ND	0.050		mg/Kg	1	1/26/2020 1:53:36 AM	50007
Xylenes, Total	ND	0.10		mg/Kg	1	1/26/2020 1:53:36 AM	50007
Surr: 1,2-Dichloroethane-d4	90.3	70-130		%Rec	1	1/26/2020 1:53:36 AM	50007
Surr: 4-Bromofluorobenzene	91.0	70-130		%Rec	1	1/26/2020 1:53:36 AM	50007
Surr: Dibromofluoromethane	93.5	70-130		%Rec	1	1/26/2020 1:53:36 AM	50007
Surr: Toluene-d8	94.1	70-130		%Rec	1	1/26/2020 1:53:36 AM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 9

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 9:20:00 AM

Lab ID: 2001907-028

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1400	60		mg/Kg	20	1/24/2020 11:52:45 PM	50042
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	4.9	4.6		mg/Kg	1	1/26/2020 2:21:53 AM	50007
Surr: BFB	91.4	70-130		%Rec	1	1/26/2020 2:21:53 AM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	73	7.7		mg/Kg	1	1/25/2020 3:23:11 AM	50010
Motor Oil Range Organics (MRO)	ND	39		mg/Kg	1	1/25/2020 3:23:11 AM	50010
Surr: DNOP	27.4	55.1-146	S	%Rec	1	1/25/2020 3:23:11 AM	50010
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.023		mg/Kg	1	1/26/2020 2:21:53 AM	50007
Toluene	ND	0.046		mg/Kg	1	1/26/2020 2:21:53 AM	50007
Ethylbenzene	ND	0.046		mg/Kg	1	1/26/2020 2:21:53 AM	50007
Xylenes, Total	ND	0.093		mg/Kg	1	1/26/2020 2:21:53 AM	50007
Surr: 1,2-Dichloroethane-d4	91.8	70-130		%Rec	1	1/26/2020 2:21:53 AM	50007
Surr: 4-Bromofluorobenzene	87.9	70-130		%Rec	1	1/26/2020 2:21:53 AM	50007
Surr: Dibromofluoromethane	93.9	70-130		%Rec	1	1/26/2020 2:21:53 AM	50007
Surr: Toluene-d8	92.4	70-130		%Rec	1	1/26/2020 2:21:53 AM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 10 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 9:25:00 AM

Lab ID: 2001907-029

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	ND	60		mg/Kg	20	1/27/2020 8:38:05 PM	50067
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/26/2020 2:50:08 AM	50007
Surr: BFB	93.5	70-130		%Rec	1	1/26/2020 2:50:08 AM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	1/27/2020 10:22:33 AM	50031
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/27/2020 10:22:33 AM	50031
Surr: DNOP	89.9	55.1-146		%Rec	1	1/27/2020 10:22:33 AM	50031
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	1/26/2020 2:50:08 AM	50007
Toluene	ND	0.049		mg/Kg	1	1/26/2020 2:50:08 AM	50007
Ethylbenzene	ND	0.049		mg/Kg	1	1/26/2020 2:50:08 AM	50007
Xylenes, Total	ND	0.098		mg/Kg	1	1/26/2020 2:50:08 AM	50007
Surr: 1,2-Dichloroethane-d4	87.0	70-130		%Rec	1	1/26/2020 2:50:08 AM	50007
Surr: 4-Bromofluorobenzene	91.5	70-130		%Rec	1	1/26/2020 2:50:08 AM	50007
Surr: Dibromofluoromethane	90.0	70-130		%Rec	1	1/26/2020 2:50:08 AM	50007
Surr: Toluene-d8	92.3	70-130		%Rec	1	1/26/2020 2:50:08 AM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 10 South

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 9:30:00 AM

Lab ID: 2001907-030

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	ND	60		mg/Kg	20	1/27/2020 9:15:05 PM	50067
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/26/2020 3:18:24 AM	50007
Surr: BFB	94.5	70-130		%Rec	1	1/26/2020 3:18:24 AM	50007
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	1/27/2020 10:50:00 AM	50031
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/27/2020 10:50:00 AM	50031
Surr: DNOP	82.5	55.1-146		%Rec	1	1/27/2020 10:50:00 AM	50031
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: JMR
Benzene	ND	0.023		mg/Kg	1	1/26/2020 3:18:24 AM	50007
Toluene	ND	0.046		mg/Kg	1	1/26/2020 3:18:24 AM	50007
Ethylbenzene	ND	0.046		mg/Kg	1	1/26/2020 3:18:24 AM	50007
Xylenes, Total	ND	0.092		mg/Kg	1	1/26/2020 3:18:24 AM	50007
Surr: 1,2-Dichloroethane-d4	89.9	70-130		%Rec	1	1/26/2020 3:18:24 AM	50007
Surr: 4-Bromofluorobenzene	96.4	70-130		%Rec	1	1/26/2020 3:18:24 AM	50007
Surr: Dibromofluoromethane	92.4	70-130		%Rec	1	1/26/2020 3:18:24 AM	50007
Surr: Toluene-d8	92.9	70-130		%Rec	1	1/26/2020 3:18:24 AM	50007

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 10

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 9:35:00 AM

Lab ID: 2001907-031

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	5100	300		mg/Kg	100	1/29/2020 1:56:24 AM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	260	9.3		mg/Kg	1	1/27/2020 10:59:12 AM	50031
Motor Oil Range Organics (MRO)	87	47		mg/Kg	1	1/27/2020 10:59:12 AM	50031
Surr: DNOP	79.9	55.1-146		%Rec	1	1/27/2020 10:59:12 AM	50031
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/27/2020 10:08:03 AM	50028
Surr: BFB	105	66.6-105	S	%Rec	1	1/27/2020 10:08:03 AM	50028
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/27/2020 10:08:03 AM	50028
Toluene	ND	0.049		mg/Kg	1	1/27/2020 10:08:03 AM	50028
Ethylbenzene	ND	0.049		mg/Kg	1	1/27/2020 10:08:03 AM	50028
Xylenes, Total	ND	0.098		mg/Kg	1	1/27/2020 10:08:03 AM	50028
Surr: 4-Bromofluorobenzene	96.2	80-120		%Rec	1	1/27/2020 10:08:03 AM	50028

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 11 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 9:40:00 AM

Lab ID: 2001907-032

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	260	60		mg/Kg	20	1/27/2020 10:29:08 PM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	14	9.6		mg/Kg	1	1/27/2020 11:08:20 AM	50031
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/27/2020 11:08:20 AM	50031
Surr: DNOP	69.2	55.1-146		%Rec	1	1/27/2020 11:08:20 AM	50031
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/27/2020 10:31:38 AM	50028
Surr: BFB	109	66.6-105	S	%Rec	1	1/27/2020 10:31:38 AM	50028
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/27/2020 10:31:38 AM	50028
Toluene	ND	0.049		mg/Kg	1	1/27/2020 10:31:38 AM	50028
Ethylbenzene	ND	0.049		mg/Kg	1	1/27/2020 10:31:38 AM	50028
Xylenes, Total	0.33	0.097		mg/Kg	1	1/27/2020 10:31:38 AM	50028
Surr: 4-Bromofluorobenzene	99.2	80-120		%Rec	1	1/27/2020 10:31:38 AM	50028

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 11 South

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 9:45:00 AM

Lab ID: 2001907-033

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	ND	60		mg/Kg	20	1/27/2020 10:41:30 PM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	34	9.4		mg/Kg	1	1/27/2020 11:17:28 AM	50031
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/27/2020 11:17:28 AM	50031
Surr: DNOP	69.6	55.1-146		%Rec	1	1/27/2020 11:17:28 AM	50031
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	15	5.0		mg/Kg	1	1/27/2020 10:17:06 PM	50028
Surr: BFB	164	66.6-105	S	%Rec	1	1/27/2020 10:17:06 PM	50028
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/27/2020 10:17:06 PM	50028
Toluene	ND	0.050		mg/Kg	1	1/27/2020 10:17:06 PM	50028
Ethylbenzene	0.060	0.050		mg/Kg	1	1/27/2020 10:17:06 PM	50028
Xylenes, Total	0.96	0.10		mg/Kg	1	1/27/2020 10:17:06 PM	50028
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	1/27/2020 10:17:06 PM	50028

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 11

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 9:50:00 AM

Lab ID: 2001907-034

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	9300	300		mg/Kg	100	1/29/2020 2:08:44 AM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	200	9.6		mg/Kg	1	1/27/2020 11:26:38 AM	50031
Motor Oil Range Organics (MRO)	74	48		mg/Kg	1	1/27/2020 11:26:38 AM	50031
Surr: DNOP	82.7	55.1-146		%Rec	1	1/27/2020 11:26:38 AM	50031
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/27/2020 10:40:27 PM	50028
Surr: BFB	87.9	66.6-105		%Rec	1	1/27/2020 10:40:27 PM	50028
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/27/2020 10:40:27 PM	50028
Toluene	ND	0.049		mg/Kg	1	1/27/2020 10:40:27 PM	50028
Ethylbenzene	ND	0.049		mg/Kg	1	1/27/2020 10:40:27 PM	50028
Xylenes, Total	ND	0.098		mg/Kg	1	1/27/2020 10:40:27 PM	50028
Surr: 4-Bromofluorobenzene	92.7	80-120		%Rec	1	1/27/2020 10:40:27 PM	50028

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 12 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 9:55:00 AM

Lab ID: 2001907-035

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	ND	60		mg/Kg	20	1/27/2020 11:06:11 PM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/27/2020 11:35:50 AM	50031
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/27/2020 11:35:50 AM	50031
Surr: DNOP	66.9	55.1-146		%Rec	1	1/27/2020 11:35:50 AM	50031
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/27/2020 11:03:49 PM	50028
Surr: BFB	83.8	66.6-105		%Rec	1	1/27/2020 11:03:49 PM	50028
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/27/2020 11:03:49 PM	50028
Toluene	ND	0.049		mg/Kg	1	1/27/2020 11:03:49 PM	50028
Ethylbenzene	ND	0.049		mg/Kg	1	1/27/2020 11:03:49 PM	50028
Xylenes, Total	ND	0.097		mg/Kg	1	1/27/2020 11:03:49 PM	50028
Surr: 4-Bromofluorobenzene	93.8	80-120		%Rec	1	1/27/2020 11:03:49 PM	50028

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 12 South

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 10:00:00 AM

Lab ID: 2001907-036

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	ND	60		mg/Kg	20	1/27/2020 11:18:31 PM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/27/2020 11:45:00 AM	50031
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/27/2020 11:45:00 AM	50031
Surr: DNOP	65.4	55.1-146		%Rec	1	1/27/2020 11:45:00 AM	50031
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/27/2020 11:27:10 PM	50028
Surr: BFB	82.8	66.6-105		%Rec	1	1/27/2020 11:27:10 PM	50028
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/27/2020 11:27:10 PM	50028
Toluene	ND	0.049		mg/Kg	1	1/27/2020 11:27:10 PM	50028
Ethylbenzene	ND	0.049		mg/Kg	1	1/27/2020 11:27:10 PM	50028
Xylenes, Total	ND	0.099		mg/Kg	1	1/27/2020 11:27:10 PM	50028
Surr: 4-Bromofluorobenzene	93.3	80-120		%Rec	1	1/27/2020 11:27:10 PM	50028

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 12

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 10:05:00 AM

Lab ID: 2001907-037

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	7000	300		mg/Kg	100	1/29/2020 2:21:06 AM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	9400	190		mg/Kg	20	1/27/2020 1:11:35 PM	50031
Motor Oil Range Organics (MRO)	1800	960		mg/Kg	20	1/27/2020 1:11:35 PM	50031
Surr: DNOP	0	55.1-146	S	%Rec	20	1/27/2020 1:11:35 PM	50031
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	94	4.8		mg/Kg	1	1/27/2020 11:50:31 PM	50028
Surr: BFB	556	66.6-105	S	%Rec	1	1/27/2020 11:50:31 PM	50028
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/27/2020 11:50:31 PM	50028
Toluene	0.10	0.048		mg/Kg	1	1/27/2020 11:50:31 PM	50028
Ethylbenzene	0.25	0.048		mg/Kg	1	1/27/2020 11:50:31 PM	50028
Xylenes, Total	5.1	0.097		mg/Kg	1	1/27/2020 11:50:31 PM	50028
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	1/27/2020 11:50:31 PM	50028

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 13 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 10:10:00 AM

Lab ID: 2001907-038

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	62	60		mg/Kg	20	1/27/2020 11:43:13 PM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/27/2020 12:34:58 PM	50031
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/27/2020 12:34:58 PM	50031
Surr: DNOP	64.9	55.1-146		%Rec	1	1/27/2020 12:34:58 PM	50031
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/28/2020 12:13:54 AM	50028
Surr: BFB	83.9	66.6-105		%Rec	1	1/28/2020 12:13:54 AM	50028
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	1/28/2020 12:13:54 AM	50028
Toluene	ND	0.046		mg/Kg	1	1/28/2020 12:13:54 AM	50028
Ethylbenzene	ND	0.046		mg/Kg	1	1/28/2020 12:13:54 AM	50028
Xylenes, Total	ND	0.093		mg/Kg	1	1/28/2020 12:13:54 AM	50028
Surr: 4-Bromofluorobenzene	92.6	80-120		%Rec	1	1/28/2020 12:13:54 AM	50028

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 13 South

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 10:15:00 AM

Lab ID: 2001907-039

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	240	60		mg/Kg	20	1/28/2020 11:28:16 PM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/27/2020 4:21:19 PM	50046
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/27/2020 4:21:19 PM	50046
Surr: DNOP	56.5	55.1-146		%Rec	1	1/27/2020 4:21:19 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/28/2020 12:37:13 AM	50041
Surr: BFB	85.9	66.6-105		%Rec	1	1/28/2020 12:37:13 AM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/28/2020 12:37:13 AM	50041
Toluene	ND	0.050		mg/Kg	1	1/28/2020 12:37:13 AM	50041
Ethylbenzene	ND	0.050		mg/Kg	1	1/28/2020 12:37:13 AM	50041
Xylenes, Total	ND	0.099		mg/Kg	1	1/28/2020 12:37:13 AM	50041
Surr: 4-Bromofluorobenzene	96.8	80-120		%Rec	1	1/28/2020 12:37:13 AM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 13

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/21/2020 10:20:00 AM

Lab ID: 2001907-040

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	6800	300		mg/Kg	100	1/28/2020 11:40:37 PM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	66	9.4		mg/Kg	1	1/27/2020 4:30:29 PM	50046
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/27/2020 4:30:29 PM	50046
Surr: DNOP	78.6	55.1-146		%Rec	1	1/27/2020 4:30:29 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/28/2020 8:09:27 PM	50041
Surr: BFB	91.3	66.6-105		%Rec	1	1/28/2020 8:09:27 PM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/28/2020 2:56:48 AM	50041
Toluene	ND	0.049		mg/Kg	1	1/28/2020 2:56:48 AM	50041
Ethylbenzene	ND	0.049		mg/Kg	1	1/28/2020 2:56:48 AM	50041
Xylenes, Total	ND	0.099		mg/Kg	1	1/28/2020 2:56:48 AM	50041
Surr: 4-Bromofluorobenzene	93.5	80-120		%Rec	1	1/28/2020 2:56:48 AM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 14 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 10:25:00 AM

Lab ID: 2001907-041

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	79	60		mg/Kg	20	1/28/2020 11:52:57 PM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	61	9.5		mg/Kg	1	1/27/2020 4:39:38 PM	50046
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/27/2020 4:39:38 PM	50046
Surr: DNOP	75.2	55.1-146		%Rec	1	1/27/2020 4:39:38 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/28/2020 8:32:55 PM	50041
Surr: BFB	92.6	66.6-105		%Rec	1	1/28/2020 8:32:55 PM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/28/2020 8:32:55 PM	50041
Toluene	ND	0.050		mg/Kg	1	1/28/2020 8:32:55 PM	50041
Ethylbenzene	ND	0.050		mg/Kg	1	1/28/2020 8:32:55 PM	50041
Xylenes, Total	0.12	0.10		mg/Kg	1	1/28/2020 8:32:55 PM	50041
Surr: 4-Bromofluorobenzene	97.7	80-120		%Rec	1	1/28/2020 8:32:55 PM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 14 South

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 10:30:00 AM

Lab ID: 2001907-042

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/29/2020 12:05:17 AM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	23	9.8		mg/Kg	1	1/27/2020 4:48:46 PM	50046
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/27/2020 4:48:46 PM	50046
Surr: DNOP	75.6	55.1-146		%Rec	1	1/27/2020 4:48:46 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/28/2020 8:56:19 PM	50041
Surr: BFB	85.2	66.6-105		%Rec	1	1/28/2020 8:56:19 PM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/28/2020 8:56:19 PM	50041
Toluene	ND	0.049		mg/Kg	1	1/28/2020 8:56:19 PM	50041
Ethylbenzene	ND	0.049		mg/Kg	1	1/28/2020 8:56:19 PM	50041
Xylenes, Total	ND	0.098		mg/Kg	1	1/28/2020 8:56:19 PM	50041
Surr: 4-Bromofluorobenzene	94.0	80-120		%Rec	1	1/28/2020 8:56:19 PM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 14

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 10:35:00 AM

Lab ID: 2001907-043

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	77	60		mg/Kg	20	1/29/2020 12:17:37 AM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	73	9.8		mg/Kg	1	1/27/2020 4:57:53 PM	50046
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/27/2020 4:57:53 PM	50046
Surr: DNOP	81.8	55.1-146		%Rec	1	1/27/2020 4:57:53 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	5.9	5.0		mg/Kg	1	1/28/2020 9:19:45 PM	50041
Surr: BFB	122	66.6-105	S	%Rec	1	1/28/2020 9:19:45 PM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/28/2020 9:19:45 PM	50041
Toluene	ND	0.050		mg/Kg	1	1/28/2020 9:19:45 PM	50041
Ethylbenzene	ND	0.050		mg/Kg	1	1/28/2020 9:19:45 PM	50041
Xylenes, Total	0.54	0.10		mg/Kg	1	1/28/2020 9:19:45 PM	50041
Surr: 4-Bromofluorobenzene	96.5	80-120		%Rec	1	1/28/2020 9:19:45 PM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 15 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 10:40:00 AM

Lab ID: 2001907-044

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/29/2020 12:29:58 AM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/27/2020 5:07:01 PM	50046
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	1/27/2020 5:07:01 PM	50046
Surr: DNOP	84.4	55.1-146		%Rec	1	1/27/2020 5:07:01 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/28/2020 9:43:05 PM	50041
Surr: BFB	85.0	66.6-105		%Rec	1	1/28/2020 9:43:05 PM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/28/2020 9:43:05 PM	50041
Toluene	ND	0.050		mg/Kg	1	1/28/2020 9:43:05 PM	50041
Ethylbenzene	ND	0.050		mg/Kg	1	1/28/2020 9:43:05 PM	50041
Xylenes, Total	ND	0.099		mg/Kg	1	1/28/2020 9:43:05 PM	50041
Surr: 4-Bromofluorobenzene	95.7	80-120		%Rec	1	1/28/2020 9:43:05 PM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 15 South

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 10:45:00 AM

Lab ID: 2001907-045

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/29/2020 12:42:19 AM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	52	9.4		mg/Kg	1	1/27/2020 5:16:09 PM	50046
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/27/2020 5:16:09 PM	50046
Surr: DNOP	76.9	55.1-146		%Rec	1	1/27/2020 5:16:09 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/28/2020 10:06:25 PM	50041
Surr: BFB	91.9	66.6-105		%Rec	1	1/28/2020 10:06:25 PM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	1/28/2020 10:06:25 PM	50041
Toluene	ND	0.046		mg/Kg	1	1/28/2020 10:06:25 PM	50041
Ethylbenzene	ND	0.046		mg/Kg	1	1/28/2020 10:06:25 PM	50041
Xylenes, Total	0.17	0.093		mg/Kg	1	1/28/2020 10:06:25 PM	50041
Surr: 4-Bromofluorobenzene	94.2	80-120		%Rec	1	1/28/2020 10:06:25 PM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 15

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 10:50:00 AM

Lab ID: 2001907-046

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/29/2020 1:19:21 AM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	1/27/2020 5:25:22 PM	50046
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/27/2020 5:25:22 PM	50046
Surr: DNOP	63.9	55.1-146		%Rec	1	1/27/2020 5:25:22 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/28/2020 10:29:45 PM	50041
Surr: BFB	80.9	66.6-105		%Rec	1	1/28/2020 10:29:45 PM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/28/2020 10:29:45 PM	50041
Toluene	ND	0.049		mg/Kg	1	1/28/2020 10:29:45 PM	50041
Ethylbenzene	ND	0.049		mg/Kg	1	1/28/2020 10:29:45 PM	50041
Xylenes, Total	ND	0.098		mg/Kg	1	1/28/2020 10:29:45 PM	50041
Surr: 4-Bromofluorobenzene	90.6	80-120		%Rec	1	1/28/2020 10:29:45 PM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 16 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 10:55:00 AM

Lab ID: 2001907-047

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/29/2020 1:31:42 AM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/27/2020 5:34:33 PM	50046
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/27/2020 5:34:33 PM	50046
Surr: DNOP	62.7	55.1-146		%Rec	1	1/27/2020 5:34:33 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/29/2020 11:06:29 AM	50041
Surr: BFB	74.9	66.6-105		%Rec	1	1/29/2020 11:06:29 AM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/29/2020 11:06:29 AM	50041
Toluene	ND	0.050		mg/Kg	1	1/29/2020 11:06:29 AM	50041
Ethylbenzene	ND	0.050		mg/Kg	1	1/29/2020 11:06:29 AM	50041
Xylenes, Total	ND	0.099		mg/Kg	1	1/29/2020 11:06:29 AM	50041
Surr: 4-Bromofluorobenzene	83.4	80-120		%Rec	1	1/29/2020 11:06:29 AM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 16 South

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 11:00:00 AM

Lab ID: 2001907-048

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/29/2020 1:44:02 AM	50067
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	14	9.9		mg/Kg	1	1/27/2020 5:43:43 PM	50046
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/27/2020 5:43:43 PM	50046
Surr: DNOP	56.5	55.1-146		%Rec	1	1/27/2020 5:43:43 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/29/2020 11:30:02 AM	50041
Surr: BFB	77.3	66.6-105		%Rec	1	1/29/2020 11:30:02 AM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/29/2020 11:30:02 AM	50041
Toluene	ND	0.049		mg/Kg	1	1/29/2020 11:30:02 AM	50041
Ethylbenzene	ND	0.049		mg/Kg	1	1/29/2020 11:30:02 AM	50041
Xylenes, Total	ND	0.098		mg/Kg	1	1/29/2020 11:30:02 AM	50041
Surr: 4-Bromofluorobenzene	84.4	80-120		%Rec	1	1/29/2020 11:30:02 AM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 16

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 11:05:00 AM

Lab ID: 2001907-049

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/27/2020 7:25:45 PM	50074
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/27/2020 5:52:51 PM	50046
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/27/2020 5:52:51 PM	50046
Surr: DNOP	64.9	55.1-146		%Rec	1	1/27/2020 5:52:51 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/29/2020 11:53:35 AM	50041
Surr: BFB	78.0	66.6-105		%Rec	1	1/29/2020 11:53:35 AM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/29/2020 11:53:35 AM	50041
Toluene	ND	0.049		mg/Kg	1	1/29/2020 11:53:35 AM	50041
Ethylbenzene	ND	0.049		mg/Kg	1	1/29/2020 11:53:35 AM	50041
Xylenes, Total	ND	0.097		mg/Kg	1	1/29/2020 11:53:35 AM	50041
Surr: 4-Bromofluorobenzene	87.1	80-120		%Rec	1	1/29/2020 11:53:35 AM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 17 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 11:10:00 AM

Lab ID: 2001907-050

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/27/2020 8:27:48 PM	50074
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	34	9.6		mg/Kg	1	1/27/2020 6:01:58 PM	50046
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/27/2020 6:01:58 PM	50046
Surr: DNOP	69.3	55.1-146		%Rec	1	1/27/2020 6:01:58 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/29/2020 12:17:20 PM	50041
Surr: BFB	82.4	66.6-105		%Rec	1	1/29/2020 12:17:20 PM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/29/2020 12:17:20 PM	50041
Toluene	ND	0.050		mg/Kg	1	1/29/2020 12:17:20 PM	50041
Ethylbenzene	ND	0.050		mg/Kg	1	1/29/2020 12:17:20 PM	50041
Xylenes, Total	ND	0.10		mg/Kg	1	1/29/2020 12:17:20 PM	50041
Surr: 4-Bromofluorobenzene	91.3	80-120		%Rec	1	1/29/2020 12:17:20 PM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 17 South

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 11:15:00 AM

Lab ID: 2001907-051

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/27/2020 8:40:12 PM	50074
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/27/2020 6:11:03 PM	50046
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/27/2020 6:11:03 PM	50046
Surr: DNOP	73.0	55.1-146		%Rec	1	1/27/2020 6:11:03 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	5.9	4.6		mg/Kg	1	1/29/2020 12:40:56 PM	50041
Surr: BFB	106	66.6-105	S	%Rec	1	1/29/2020 12:40:56 PM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	1/29/2020 12:40:56 PM	50041
Toluene	0.047	0.046		mg/Kg	1	1/29/2020 12:40:56 PM	50041
Ethylbenzene	ND	0.046		mg/Kg	1	1/29/2020 12:40:56 PM	50041
Xylenes, Total	0.58	0.092		mg/Kg	1	1/29/2020 12:40:56 PM	50041
Surr: 4-Bromofluorobenzene	93.2	80-120		%Rec	1	1/29/2020 12:40:56 PM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 17

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 11:20:00 AM

Lab ID: 2001907-052

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/27/2020 8:52:36 PM	50074
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/27/2020 6:20:07 PM	50046
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/27/2020 6:20:07 PM	50046
Surr: DNOP	45.0	55.1-146	S	%Rec	1	1/27/2020 6:20:07 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/29/2020 1:04:34 PM	50041
Surr: BFB	80.9	66.6-105		%Rec	1	1/29/2020 1:04:34 PM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	1/29/2020 1:04:34 PM	50041
Toluene	ND	0.046		mg/Kg	1	1/29/2020 1:04:34 PM	50041
Ethylbenzene	ND	0.046		mg/Kg	1	1/29/2020 1:04:34 PM	50041
Xylenes, Total	0.21	0.093		mg/Kg	1	1/29/2020 1:04:34 PM	50041
Surr: 4-Bromofluorobenzene	87.2	80-120		%Rec	1	1/29/2020 1:04:34 PM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 18 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 11:25:00 AM

Lab ID: 2001907-053

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/27/2020 9:05:01 PM	50074
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/27/2020 6:29:10 PM	50046
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/27/2020 6:29:10 PM	50046
Surr: DNOP	60.4	55.1-146		%Rec	1	1/27/2020 6:29:10 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/29/2020 1:28:10 PM	50041
Surr: BFB	78.5	66.6-105		%Rec	1	1/29/2020 1:28:10 PM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/29/2020 1:28:10 PM	50041
Toluene	ND	0.048		mg/Kg	1	1/29/2020 1:28:10 PM	50041
Ethylbenzene	ND	0.048		mg/Kg	1	1/29/2020 1:28:10 PM	50041
Xylenes, Total	ND	0.097		mg/Kg	1	1/29/2020 1:28:10 PM	50041
Surr: 4-Bromofluorobenzene	86.5	80-120		%Rec	1	1/29/2020 1:28:10 PM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 18 South

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 11:30:00 AM

Lab ID: 2001907-054

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/27/2020 9:17:25 PM	50074
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	1/27/2020 6:38:12 PM	50046
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/27/2020 6:38:12 PM	50046
Surr: DNOP	54.8	55.1-146	S	%Rec	1	1/27/2020 6:38:12 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/29/2020 1:51:29 PM	50041
Surr: BFB	79.6	66.6-105		%Rec	1	1/29/2020 1:51:29 PM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/29/2020 1:51:29 PM	50041
Toluene	ND	0.049		mg/Kg	1	1/29/2020 1:51:29 PM	50041
Ethylbenzene	ND	0.049		mg/Kg	1	1/29/2020 1:51:29 PM	50041
Xylenes, Total	0.20	0.099		mg/Kg	1	1/29/2020 1:51:29 PM	50041
Surr: 4-Bromofluorobenzene	86.0	80-120		%Rec	1	1/29/2020 1:51:29 PM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 18

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 11:35:00 AM

Lab ID: 2001907-055

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/27/2020 9:29:50 PM	50074
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	1700	82		mg/Kg	10	1/28/2020 10:21:58 AM	50046
Motor Oil Range Organics (MRO)	430	410		mg/Kg	10	1/28/2020 10:21:58 AM	50046
Surr: DNOP	0	55.1-146	S	%Rec	10	1/28/2020 10:21:58 AM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	18	5.0		mg/Kg	1	1/29/2020 3:25:53 PM	50041
Surr: BFB	152	66.6-105	S	%Rec	1	1/29/2020 3:25:53 PM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/29/2020 3:25:53 PM	50041
Toluene	ND	0.050		mg/Kg	1	1/29/2020 3:25:53 PM	50041
Ethylbenzene	ND	0.050		mg/Kg	1	1/29/2020 3:25:53 PM	50041
Xylenes, Total	0.48	0.099		mg/Kg	1	1/29/2020 3:25:53 PM	50041
Surr: 4-Bromofluorobenzene	86.8	80-120		%Rec	1	1/29/2020 3:25:53 PM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 19 North

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 11:40:00 AM

Lab ID: 2001907-056

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	61		mg/Kg	20	1/27/2020 9:42:14 PM	50074
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/27/2020 6:56:14 PM	50046
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/27/2020 6:56:14 PM	50046
Surr: DNOP	60.4	55.1-146		%Rec	1	1/27/2020 6:56:14 PM	50046
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/29/2020 3:49:28 PM	50041
Surr: BFB	74.7	66.6-105		%Rec	1	1/29/2020 3:49:28 PM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/29/2020 3:49:28 PM	50041
Toluene	ND	0.048		mg/Kg	1	1/29/2020 3:49:28 PM	50041
Ethylbenzene	ND	0.048		mg/Kg	1	1/29/2020 3:49:28 PM	50041
Xylenes, Total	ND	0.097		mg/Kg	1	1/29/2020 3:49:28 PM	50041
Surr: 4-Bromofluorobenzene	84.6	80-120		%Rec	1	1/29/2020 3:49:28 PM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 19 South

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 11:45:00 AM

Lab ID: 2001907-057

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/27/2020 9:54:39 PM	50074
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/27/2020 7:58:58 PM	50047
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/27/2020 7:58:58 PM	50047
Surr: DNOP	86.1	55.1-146		%Rec	1	1/27/2020 7:58:58 PM	50047
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/29/2020 4:12:59 PM	50041
Surr: BFB	77.0	66.6-105		%Rec	1	1/29/2020 4:12:59 PM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/29/2020 4:12:59 PM	50041
Toluene	ND	0.049		mg/Kg	1	1/29/2020 4:12:59 PM	50041
Ethylbenzene	ND	0.049		mg/Kg	1	1/29/2020 4:12:59 PM	50041
Xylenes, Total	ND	0.097		mg/Kg	1	1/29/2020 4:12:59 PM	50041
Surr: 4-Bromofluorobenzene	87.1	80-120		%Rec	1	1/29/2020 4:12:59 PM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Wall 19 West

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 11:50:00 AM

Lab ID: 2001907-058

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/27/2020 10:31:52 PM	50074
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/27/2020 8:43:47 PM	50047
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/27/2020 8:43:47 PM	50047
Surr: DNOP	63.9	55.1-146		%Rec	1	1/27/2020 8:43:47 PM	50047
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/29/2020 4:36:19 PM	50041
Surr: BFB	78.0	66.6-105		%Rec	1	1/29/2020 4:36:19 PM	50041
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/29/2020 4:36:19 PM	50041
Toluene	ND	0.047		mg/Kg	1	1/29/2020 4:36:19 PM	50041
Ethylbenzene	ND	0.047		mg/Kg	1	1/29/2020 4:36:19 PM	50041
Xylenes, Total	ND	0.095		mg/Kg	1	1/29/2020 4:36:19 PM	50041
Surr: 4-Bromofluorobenzene	88.8	80-120		%Rec	1	1/29/2020 4:36:19 PM	50041

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

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

Analytical Report

Lab Order 2001907

Date Reported: 1/30/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Mewbourne Oil Company

Client Sample ID: Floor 19

Project: FNR 17 20 B21P Federal Com 1

Collection Date: 1/20/2020 11:55:00 AM

Lab ID: 2001907-059

Matrix: SOIL

Received Date: 1/23/2020 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/27/2020 10:44:16 PM	50074
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	1/27/2020 8:52:46 PM	50047
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	1/27/2020 8:52:46 PM	50047
Surr: DNOP	63.7	55.1-146		%Rec	1	1/27/2020 8:52:46 PM	50047
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/27/2020 12:04:24 AM	50043
Surr: BFB	82.9	66.6-105		%Rec	1	1/27/2020 12:04:24 AM	50043
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	1/27/2020 12:04:24 AM	50043
Toluene	ND	0.046		mg/Kg	1	1/27/2020 12:04:24 AM	50043
Ethylbenzene	ND	0.046		mg/Kg	1	1/27/2020 12:04:24 AM	50043
Xylenes, Total	0.12	0.093		mg/Kg	1	1/27/2020 12:04:24 AM	50043
Surr: 4-Bromofluorobenzene	90.8	80-120		%Rec	1	1/27/2020 12:04:24 AM	50043

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

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

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

WO#: 2001907

30-Jan-20

Client: Mewbourne Oil Company
Project: FNR 17 20 B21P Federal Com 1

Sample ID: MB-50029	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 50029	RunNo: 66060								
Prep Date: 1/24/2020	Analysis Date: 1/24/2020	SeqNo: 2269555 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-50029	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 50029	RunNo: 66060								
Prep Date: 1/24/2020	Analysis Date: 1/24/2020	SeqNo: 2269556 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.3	90	110			

Sample ID: MB-50025	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 50025	RunNo: 66053								
Prep Date: 1/24/2020	Analysis Date: 1/24/2020	SeqNo: 2269609 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-50025	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 50025	RunNo: 66053								
Prep Date: 1/24/2020	Analysis Date: 1/24/2020	SeqNo: 2269611 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.6	90	110			

Sample ID: MB-50042	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 50042	RunNo: 66053								
Prep Date: 1/24/2020	Analysis Date: 1/24/2020	SeqNo: 2269655 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-50042	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 50042	RunNo: 66053								
Prep Date: 1/24/2020	Analysis Date: 1/24/2020	SeqNo: 2269656 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.5	90	110			

Qualifiers:

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

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

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

WO#: 2001907

30-Jan-20

Client: Mewbourne Oil Company
Project: FNR 17 20 B21P Federal Com 1

Sample ID: MB-50067	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 50067	RunNo: 66103								
Prep Date: 1/27/2020	Analysis Date: 1/27/2020	SeqNo: 2270295 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-50067	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 50067	RunNo: 66103								
Prep Date: 1/27/2020	Analysis Date: 1/27/2020	SeqNo: 2270296 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.1	90	110			

Sample ID: MB-50074	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 50074	RunNo: 66105								
Prep Date: 1/27/2020	Analysis Date: 1/27/2020	SeqNo: 2270651 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-50074	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 50074	RunNo: 66105								
Prep Date: 1/27/2020	Analysis Date: 1/27/2020	SeqNo: 2270652 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.0	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#: 2001907

30-Jan-20

Client: Mewbourne Oil Company**Project:** FNR 17 20 B21P Federal Com 1

Sample ID: 2001907-009AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: Wall 3 West	Batch ID: 50010	RunNo: 66058								
Prep Date: 1/23/2020	Analysis Date: 1/25/2020	SeqNo: 2268835 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	8.7	43.59	4.232	81.6	47.4	136			
Surr: DNOP	1.8		4.359		41.4	55.1	146			S

Sample ID: 2001907-009AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: Wall 3 West	Batch ID: 50010	RunNo: 66058								
Prep Date: 1/23/2020	Analysis Date: 1/25/2020	SeqNo: 2268860 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.0	45.05	4.232	96.9	47.4	136	18.4	43.4	
Surr: DNOP	1.8		4.505		40.3	55.1	146	0	0	S

Sample ID: LCS-50008	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 50008	RunNo: 66058								
Prep Date: 1/23/2020	Analysis Date: 1/24/2020	SeqNo: 2268881 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	100	63.9	124			
Surr: DNOP	3.9		5.000		78.4	55.1	146			

Sample ID: LCS-50010	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 50010	RunNo: 66058								
Prep Date: 1/23/2020	Analysis Date: 1/25/2020	SeqNo: 2268882 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	106	63.9	124			
Surr: DNOP	4.2		5.000		83.3	55.1	146			

Sample ID: MB-50008	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 50008	RunNo: 66058								
Prep Date: 1/23/2020	Analysis Date: 1/24/2020	SeqNo: 2268884 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	8.8		10.00		88.0	55.1	146			

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#: 2001907

30-Jan-20

Client: Mewbourne Oil Company**Project:** FNR 17 20 B21P Federal Com 1

Sample ID: MB-50010	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 50010	RunNo: 66058								
Prep Date: 1/23/2020	Analysis Date: 1/24/2020	SeqNo: 2268885 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		122	55.1	146			

Sample ID: 2001907-029AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: Wall 10 North	Batch ID: 50031	RunNo: 66092								
Prep Date: 1/24/2020	Analysis Date: 1/27/2020	SeqNo: 2269875 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.6	47.89	0	99.1	47.4	136			
Surr: DNOP	3.4		4.789		71.7	55.1	146			

Sample ID: 2001907-029AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: Wall 10 North	Batch ID: 50031	RunNo: 66092								
Prep Date: 1/24/2020	Analysis Date: 1/27/2020	SeqNo: 2269876 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.6	48.17	0	98.7	47.4	136	0.241	43.4	
Surr: DNOP	3.4		4.817		70.5	55.1	146	0	0	

Sample ID: LCS-50031	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 50031	RunNo: 66092								
Prep Date: 1/24/2020	Analysis Date: 1/27/2020	SeqNo: 2269896 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.8	63.9	124			
Surr: DNOP	3.6		5.000		72.9	55.1	146			

Sample ID: MB-50031	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 50031	RunNo: 66092								
Prep Date: 1/24/2020	Analysis Date: 1/27/2020	SeqNo: 2269897 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		128	55.1	146			

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#: 2001907

30-Jan-20

Client: Mewbourne Oil Company**Project:** FNR 17 20 B21P Federal Com 1

Sample ID: 2001907-057AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: Wall 19 South	Batch ID: 50047	RunNo: 66092								
Prep Date: 1/25/2020	Analysis Date: 1/27/2020	SeqNo: 2270174 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.5	47.39	3.790	81.3	47.4	136			
Surr: DNOP	2.8		4.739		58.9	55.1	146			

Sample ID: 2001907-057AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: Wall 19 South	Batch ID: 50047	RunNo: 66092								
Prep Date: 1/25/2020	Analysis Date: 1/27/2020	SeqNo: 2270175 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	36	9.1	45.66	3.790	70.4	47.4	136	16.3	43.4	
Surr: DNOP	1.6		4.566		34.5	55.1	146	0	0	S

Sample ID: LCS-50046	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 50046	RunNo: 66092								
Prep Date: 1/25/2020	Analysis Date: 1/27/2020	SeqNo: 2270195 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	108	63.9	124			
Surr: DNOP	4.5		5.000		89.4	55.1	146			

Sample ID: LCS-50047	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 50047	RunNo: 66092								
Prep Date: 1/25/2020	Analysis Date: 1/27/2020	SeqNo: 2270196 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	109	63.9	124			
Surr: DNOP	4.2		5.000		84.5	55.1	146			

Sample ID: MB-50046	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 50046	RunNo: 66092								
Prep Date: 1/25/2020	Analysis Date: 1/27/2020	SeqNo: 2270197 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	9.4		10.00		94.2	55.1	146			

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#: 2001907

30-Jan-20

Client: Mewbourne Oil Company

Project: FNR 17 20 B21P Federal Com 1

Sample ID: MB-50047	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 50047	RunNo: 66092								
Prep Date: 1/25/2020	Analysis Date: 1/27/2020	SeqNo: 2270198	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	10		10.00		99.7	55.1	146			

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#: 2001907

30-Jan-20

Client: Mewbourne Oil Company**Project:** FNR 17 20 B21P Federal Com 1

Sample ID: mb-50005	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 50005	RunNo: 66055								
Prep Date: 1/23/2020	Analysis Date: 1/25/2020	SeqNo: 2268933 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	810		1000		81.2	66.6	105			

Sample ID: lcs-50005	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 50005	RunNo: 66055								
Prep Date: 1/23/2020	Analysis Date: 1/25/2020	SeqNo: 2268934 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	84.8	80	120			
Surr: BFB	860		1000		86.2	66.6	105			

Sample ID: mb-50028	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 50028	RunNo: 66066								
Prep Date: 1/24/2020	Analysis Date: 1/25/2020	SeqNo: 2268988 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	860		1000		85.6	66.6	105			

Sample ID: lcs-50028	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 50028	RunNo: 66066								
Prep Date: 1/24/2020	Analysis Date: 1/25/2020	SeqNo: 2268989 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.0	80	120			
Surr: BFB	960		1000		96.4	66.6	105			

Sample ID: MB-50043	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 50043	RunNo: 66068								
Prep Date: 1/24/2020	Analysis Date: 1/27/2020	SeqNo: 2269049 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	770		1000		77.0	66.6	105			

Sample ID: LCS-50043	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 50043	RunNo: 66068								
Prep Date: 1/24/2020	Analysis Date: 1/27/2020	SeqNo: 2269050 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 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#: 2001907

30-Jan-20

Client: Mewbourne Oil Company
Project: FNR 17 20 B21P Federal Com 1

Sample ID: LCS-50043	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 50043			RunNo: 66068						
Prep Date: 1/24/2020	Analysis Date: 1/27/2020			SeqNo: 2269050		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	87.0	80	120			
Surr: BFB	890		1000		89.0	66.6	105			

Sample ID: mb-50041	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 50041			RunNo: 66097						
Prep Date: 1/24/2020	Analysis Date: 1/27/2020			SeqNo: 2270072		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	860		1000		86.4	66.6	105			

Sample ID: lcs-50041	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 50041			RunNo: 66097						
Prep Date: 1/24/2020	Analysis Date: 1/27/2020			SeqNo: 2270073		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	90.1	80	120			
Surr: BFB	1400		1000		144	66.6	105			S

Sample ID: 2001907-039ams	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: Wall 13 South	Batch ID: 50041			RunNo: 66097						
Prep Date: 1/24/2020	Analysis Date: 1/28/2020			SeqNo: 2270075		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.58	0	84.2	69.1	142			
Surr: BFB	880		983.3		89.8	66.6	105			

Sample ID: 2001907-039amsd	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: Wall 13 South	Batch ID: 50041			RunNo: 66097						
Prep Date: 1/24/2020	Analysis Date: 1/28/2020			SeqNo: 2270076		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	24.95	0	86.8	69.1	142	4.48	20	
Surr: BFB	910		998.0		91.0	66.6	105	0	0	

Sample ID: mb-50070	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 50070			RunNo: 66126						
Prep Date: 1/27/2020	Analysis Date: 1/28/2020			SeqNo: 2271722		Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

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

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

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

WO#: 2001907

30-Jan-20

Client: Mewbourne Oil Company**Project:** FNR 17 20 B21P Federal Com 1

Sample ID: mb-50070	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 50070			RunNo: 66126						
Prep Date: 1/27/2020	Analysis Date: 1/28/2020			SeqNo: 2271722		Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	860		1000		85.8	66.6	105			

Sample ID: ics-50070	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 50070			RunNo: 66126						
Prep Date: 1/27/2020	Analysis Date: 1/28/2020			SeqNo: 2271723		Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	950		1000		95.4	66.6	105			

Sample ID: mb-50099	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 50099			RunNo: 66150						
Prep Date: 1/28/2020	Analysis Date: 1/29/2020			SeqNo: 2272828		Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	720		1000		72.0	66.6	105			

Sample ID: ics-50099	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 50099			RunNo: 66150						
Prep Date: 1/28/2020	Analysis Date: 1/29/2020			SeqNo: 2272829		Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	850		1000		85.4	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#: 2001907

30-Jan-20

Client: Mewbourne Oil Company**Project:** FNR 17 20 B21P Federal Com 1

Sample ID: mb-50005	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 50005	RunNo: 66055								
Prep Date: 1/23/2020	Analysis Date: 1/25/2020	SeqNo: 2268950 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	0.92		1.000		91.8	80	120			

Sample ID: LCS-50005	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 50005	RunNo: 66055								
Prep Date: 1/23/2020	Analysis Date: 1/25/2020	SeqNo: 2268951 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	96.9	80	120			
Toluene	0.96	0.050	1.000	0	96.5	80	120			
Ethylbenzene	0.94	0.050	1.000	0	94.2	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.8	80	120			
Surr: 4-Bromofluorobenzene	0.91		1.000		90.6	80	120			

Sample ID: 2001907-001ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: Wall 1 North	Batch ID: 50005	RunNo: 66055								
Prep Date: 1/23/2020	Analysis Date: 1/25/2020	SeqNo: 2268953 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9862	0	106	78.5	119			
Toluene	1.0	0.049	0.9862	0.01118	104	75.7	123			
Ethylbenzene	1.0	0.049	0.9862	0	105	74.3	126			
Xylenes, Total	3.1	0.099	2.959	0.04171	103	72.9	130			
Surr: 4-Bromofluorobenzene	0.91		0.9862		91.9	80	120			

Sample ID: 2001907-001amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: Wall 1 North	Batch ID: 50005	RunNo: 66055								
Prep Date: 1/23/2020	Analysis Date: 1/25/2020	SeqNo: 2268954 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.023	0.9251	0	101	78.5	119	10.7	20	
Toluene	0.94	0.046	0.9251	0.01118	100	75.7	123	9.89	20	
Ethylbenzene	0.94	0.046	0.9251	0	102	74.3	126	9.35	20	
Xylenes, Total	2.8	0.093	2.775	0.04171	101	72.9	130	8.43	20	
Surr: 4-Bromofluorobenzene	0.83		0.9251		90.0	80	120	0	0	

Qualifiers:

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

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

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

WO#: 2001907

30-Jan-20

Client: Mewbourne Oil Company**Project:** FNR 17 20 B21P Federal Com 1

Sample ID: mb-50028	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 50028	RunNo: 66066								
Prep Date: 1/24/2020	Analysis Date: 1/25/2020	SeqNo: 2269004 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	0.97		1.000		96.9	80	120			

Sample ID: LCS-50028	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 50028	RunNo: 66066								
Prep Date: 1/24/2020	Analysis Date: 1/25/2020	SeqNo: 2269005 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	95.5	80	120			
Toluene	0.97	0.050	1.000	0	97.5	80	120			
Ethylbenzene	0.97	0.050	1.000	0	97.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	98.1	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID: MB-50043	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 50043	RunNo: 66068								
Prep Date: 1/24/2020	Analysis Date: 1/27/2020	SeqNo: 2269077 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	0.87		1.000		86.6	80	120			

Sample ID: LCS-50043	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 50043	RunNo: 66068								
Prep Date: 1/24/2020	Analysis Date: 1/27/2020	SeqNo: 2269078 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.0	80	120			
Toluene	0.93	0.050	1.000	0	93.2	80	120			
Ethylbenzene	0.91	0.050	1.000	0	91.1	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.5	80	120			
Surr: 4-Bromofluorobenzene	0.88		1.000		87.7	80	120			

Qualifiers:

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

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

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

WO#: 2001907

30-Jan-20

Client: Mewbourne Oil Company**Project:** FNR 17 20 B21P Federal Com 1

Sample ID: 2001907-059ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: Floor 19	Batch ID: 50043	RunNo: 66068								
Prep Date: 1/24/2020	Analysis Date: 1/27/2020	SeqNo: 2269080 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.023	0.9251	0	92.8	78.5	119			
Toluene	0.86	0.046	0.9251	0.01096	91.3	75.7	123			
Ethylbenzene	0.85	0.046	0.9251	0.01244	90.9	74.3	126			
Xylenes, Total	2.6	0.093	2.775	0.1176	90.1	72.9	130			
Surr: 4-Bromofluorobenzene	0.86		0.9251		92.9	80	120			

Sample ID: 2001907-059amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: Floor 19	Batch ID: 50043	RunNo: 66068								
Prep Date: 1/24/2020	Analysis Date: 1/27/2020	SeqNo: 2269081 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.024	0.9470	0	92.2	78.5	119	1.66	20	
Toluene	0.90	0.047	0.9470	0.01096	93.4	75.7	123	4.50	20	
Ethylbenzene	0.88	0.047	0.9470	0.01244	91.2	74.3	126	2.70	20	
Xylenes, Total	2.7	0.095	2.841	0.1176	90.9	72.9	130	3.09	20	
Surr: 4-Bromofluorobenzene	0.87		0.9470		92.2	80	120	0	0	

Sample ID: mb-50041	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 50041	RunNo: 66097								
Prep Date: 1/24/2020	Analysis Date: 1/27/2020	SeqNo: 2270113 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	0.97		1.000		96.7	80	120			

Sample ID: LCS-50041	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 50041	RunNo: 66097								
Prep Date: 1/24/2020	Analysis Date: 1/27/2020	SeqNo: 2270114 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.4	80	120			
Toluene	0.94	0.050	1.000	0	94.1	80	120			
Ethylbenzene	0.94	0.050	1.000	0	94.1	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.8	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Qualifiers:

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

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

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

WO#: 2001907

30-Jan-20

Client: Mewbourne Oil Company**Project:** FNR 17 20 B21P Federal Com 1

Sample ID: 2001907-040ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: Floor 13	Batch ID: 50041	RunNo: 66097								
Prep Date: 1/24/2020	Analysis Date: 1/28/2020	SeqNo: 2270117 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.024	0.9756	0	88.3	78.5	119			
Toluene	0.88	0.049	0.9756	0.01213	88.6	75.7	123			
Ethylbenzene	0.87	0.049	0.9756	0.01460	87.3	74.3	126			
Xylenes, Total	2.7	0.098	2.927	0.07781	87.9	72.9	130			
Surr: 4-Bromofluorobenzene	0.92		0.9756		94.4	80	120			

Sample ID: 2001907-040amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: Floor 13	Batch ID: 50041	RunNo: 66097								
Prep Date: 1/24/2020	Analysis Date: 1/28/2020	SeqNo: 2270118 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.025	0.9852	0	88.0	78.5	119	0.640	20	
Toluene	0.87	0.049	0.9852	0.01213	87.4	75.7	123	0.353	20	
Ethylbenzene	0.87	0.049	0.9852	0.01460	86.5	74.3	126	0.0753	20	
Xylenes, Total	2.6	0.099	2.956	0.07781	86.7	72.9	130	0.450	20	
Surr: 4-Bromofluorobenzene	0.89		0.9852		90.5	80	120	0	0	

Sample ID: mb-50070	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 50070	RunNo: 66126								
Prep Date: 1/27/2020	Analysis Date: 1/28/2020	SeqNo: 2271744 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.97		1.000		97.4	80	120			

Sample ID: LCS-50070	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 50070	RunNo: 66126								
Prep Date: 1/27/2020	Analysis Date: 1/28/2020	SeqNo: 2271745 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		95.1	80	120			

Sample ID: MB-50099	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 50099	RunNo: 66150								
Prep Date: 1/28/2020	Analysis Date: 1/29/2020	SeqNo: 2272873 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.82		1.000		82.0	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2001907

30-Jan-20

Client: Mewbourne Oil Company

Project: FNR 17 20 B21P Federal Com 1

Sample ID: LCS-50099		SampType: LCS			TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS		Batch ID: 50099			RunNo: 66150						
Prep Date: 1/28/2020		Analysis Date: 1/29/2020			SeqNo: 2272874		Units: %Rec				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene		0.87		1.000		87.0	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

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

WO#: 2001907

30-Jan-20

Client: Mewbourne Oil Company**Project:** FNR 17 20 B21P Federal Com 1

Sample ID: 2001907-012ams	SampType: MS	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: Wall 4 North	Batch ID: 50007	RunNo: 66080								
Prep Date: 1/23/2020	Analysis Date: 1/25/2020	SeqNo: 2269696	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.024	0.9728	0	101	70	130			
Toluene	0.92	0.049	0.9728	0	94.1	70	130			
Ethylbenzene	1.0	0.049	0.9728	0	104	70	130			
Xylenes, Total	2.9	0.097	2.918	0	99.4	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.4864		90.0	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.4864		88.6	70	130			
Surr: Dibromofluoromethane	0.45		0.4864		92.9	70	130			
Surr: Toluene-d8	0.45		0.4864		93.0	70	130			

Sample ID: 2001907-012amsd	SampType: MSD	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: Wall 4 North	Batch ID: 50007	RunNo: 66080								
Prep Date: 1/23/2020	Analysis Date: 1/25/2020	SeqNo: 2269697	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	0.9930	0	91.6	70	130	8.14	20	
Toluene	0.90	0.050	0.9930	0	90.8	70	130	1.58	20	
Ethylbenzene	0.96	0.050	0.9930	0	96.7	70	130	5.63	0	
Xylenes, Total	2.8	0.099	2.979	0	94.1	70	130	3.39	0	
Surr: 1,2-Dichloroethane-d4	0.45		0.4965		90.8	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.43		0.4965		86.7	70	130	0	0	
Surr: Dibromofluoromethane	0.47		0.4965		94.3	70	130	0	0	
Surr: Toluene-d8	0.47		0.4965		95.6	70	130	0	0	

Sample ID: Ics-50007	SampType: LCS	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: LCSS	Batch ID: 50007	RunNo: 66080								
Prep Date: 1/23/2020	Analysis Date: 1/25/2020	SeqNo: 2269717	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.1	70	130			
Toluene	0.89	0.050	1.000	0	88.9	70	130			
Ethylbenzene	0.97	0.050	1.000	0	96.8	70	130			
Xylenes, Total	2.8	0.10	3.000	0	94.5	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		87.3	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.5000		90.1	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		92.5	70	130			
Surr: Toluene-d8	0.46		0.5000		92.9	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#: 2001907

30-Jan-20

Client: Mewbourne Oil Company

Project: FNR 17 20 B21P Federal Com 1

Sample ID: mb-50007	SampType: MBLK	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: PBS	Batch ID: 50007	RunNo: 66080								
Prep Date: 1/23/2020	Analysis Date: 1/25/2020	SeqNo: 2269718	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	0.44		0.5000		88.4	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		88.9	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		95.8	70	130			
Surr: Toluene-d8	0.46		0.5000		91.5	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 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#: 2001907

30-Jan-20

Client: Mewbourne Oil Company
Project: FNR 17 20 B21P Federal Com 1

Sample ID: 2001907-011ams	SampType: MS		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: Wall 4 South	Batch ID: 50007		RunNo: 66080							
Prep Date: 1/23/2020	Analysis Date: 1/25/2020		SeqNo: 2269727		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	24.78	4.743	96.3	70	130			
Surr: BFB	460		495.5		93.7	70	130			

Sample ID: 2001907-011amsd	SampType: MSD		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: Wall 4 South	Batch ID: 50007		RunNo: 66080							
Prep Date: 1/23/2020	Analysis Date: 1/25/2020		SeqNo: 2269728		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.6	23.11	4.743	96.6	70	130	5.54	20	
Surr: BFB	440		462.1		95.7	70	130	0	0	

Sample ID: lcs-50007	SampType: LCS		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: LCSS	Batch ID: 50007		RunNo: 66080							
Prep Date: 1/23/2020	Analysis Date: 1/25/2020		SeqNo: 2269750		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	82.3	70	130			
Surr: BFB	460		500.0		92.8	70	130			

Sample ID: mb-50007	SampType: MBLK		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: PBS	Batch ID: 50007		RunNo: 66080							
Prep Date: 1/23/2020	Analysis Date: 1/25/2020		SeqNo: 2269751		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	460		500.0		91.4	70	130			

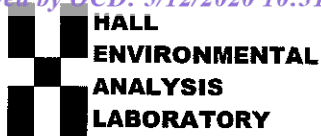
Sample ID: 2.5ug gro lcs	SampType: LCS		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: LCSS	Batch ID: G66104		RunNo: 66104							
Prep Date:	Analysis Date: 1/27/2020		SeqNo: 2270329		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	470		500.0		93.5	70	130			

Sample ID: mb1	SampType: MBLK		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: PBS	Batch ID: G66104		RunNo: 66104							
Prep Date:	Analysis Date: 1/27/2020		SeqNo: 2270354		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	470		500.0		93.4	70	130			

Qualifiers:

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

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



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: **MEWBORNE OIL COM**Work Order Number: **2001907**

RcptNo: 1

Received By: **Isaiah Ortiz**

1/23/2020 9:20:00 AM

I-OK

Completed By: **Isaiah Ortiz**

1/23/2020 9:46:47 AM

I-OK

Reviewed By: **ENM**

1/23/20

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 ☒ No ☐ NA ☐4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐5. Sample(s) in proper container(s)? Yes ☒ No ☐6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐9. Received at least 1 vial with headspace $<1/4"$ for AQ VOA? Yes ☐ No ☐ NA ☒10. Were any sample containers received broken? Yes ☐ No ☒11. Does paperwork match bottle labels? Yes ☒ No ☐

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐13. Is it clear what analyses were requested? Yes ☒ No ☐14. Were all holding times able to be met? Yes ☒ No ☐

(If no, notify customer for authorization.)

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: **SP 1/23/20**

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	1.4	Good	Not Present			
2	1.3	Good	Not Present			

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 ☐ Other

☐ NELAC ☐ EDD (Type)

Turn-Around Time: 5 day ☐ Standard ☐ Rush

Project Name: FNR 17 20 B2IP Federal Com 1

Project #:

Project Manager: Robbie Runnels

Sampler: Kenny Angel

On Ice ☐ Yes ☐ No

of Coolers: 2

Cooler Temperature of: 13.0 14.0 13.0

Container Type and #

Preservative Type

HEAL No: 2001907

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No	Chloride	TPH	BTEX
1/20/20	0850	S	Wall 1 North	1	Ice	-001	X	X	X
1/20/20	0855	S	Wall 1 East	1	Ice	-002	X	X	X
1/20/20	0900	S	Wall 1 West	1	Ice	-003	X	X	X
1/20/20	0905	S	Floor 1	1	Ice	-004	X	X	X
1/20/20	0910	S	Wall 2 East	1	Ice	-005	X	X	X
1/20/20	0915	S	Wall 2 West	1	Ice	-006	X	X	X
1/20/20	0920	S	Floor 2	1	Ice	-007	X	X	X
1/20/20	0925	S	Wall 3 East	1	Ice	-008	X	X	X
1/20/20	0930	S	Wall 3 West	1	Ice	-009	X	X	X
1/20/20	0935	S	Floor 3	1	Ice	-010	X	X	X
1/20/20	0940	S	Wall 4 South	1	Ice	-011	X	X	X
1/20/20	0945	S	Wall 4 North	1	Ice	-012	X	X	X

Remarks:

Date: 1/22 Time: 6:45 Relinquished by: Kenny Angel

Date: 1/20/20 Time: 1700 Relinquished by: [Signature]

Received by: [Signature] Date: 1/20/20 Time: 0845

Received by: [Signature] Date: 1/20/20 Time: 0920

Chain-of-Custody Record

Client: Mewbourne Oil Company

Mailing Address:

Turn-Around Time:

☐ Standard ☐ Rush

Project Name:

FNR 17 20 B2IP Federal Com 1

Project #:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)Accreditation: ☐ Az Compliance☐ NELAC ☐ Other☐ EDD (Type)

Project Manager:

Robbie Runnels

Sampler: Kenny Angel

On Ice: ☒ Yes ☐ No

of Coolers: 2

Cooler Temp (including CP): 13-01-13-01-13-01

Date Time Matrix Sample Name

1/20/20 0950 S Floor 4

1/21/20 0810 S Wall 5 South

1/21/20 0815 S Wall 5 North

1/21/20 0820 S Floor 5

1/21/20 0825 S Wall 6 North

1/21/20 0830 S Wall 6 South

1/21/20 0835 S Floor 6

1/21/20 0840 S Wall 7 North

1/21/20 0845 S Wall 7 South

1/21/20 0850 S Floor 7

1/21/20 0855 S Wall 8 North

1/21/20 0900 S Wall 8 South

Date: 1/22/20

Time: 0845

Relinquished by: [Signature]

Date: 1/20/20

Time: 1900

Relinquished by: [Signature]

Container Type and #

Preservative Type

HEAL No.

2001901

1

Ice

-013

1

Ice

-014

1

Ice

-015

1

Ice

-016

1

Ice

-017

1

Ice

-018

1

Ice

-019

1

Ice

-020

1

Ice

-021

1

Ice

-022

1

Ice

-023

1

Ice

-024

1

Ice

Chloride

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

Remarks:

Received by: [Signature]

Date: 1/22/20

Time: 0845

Via: [Signature]

Date: 1/20/20

Time: 0845

Via: [Signature]

Date: 1/20/20

Time: 0845

Chain-of-Custody Record

Client: Mewbourne Oil Company

Turn-Around Time: 5 day
☐ Standard ☐ Rush

Project Name:

FNR 17 20 B2IP Federal Com 1

Mailing Address:

Project #:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)Accreditation: ☐ Az Compliance☐ NELAC ☐ Other☐ EDD (Type)

Project Manager:

Robbie Runnels

Sampler: Kenny Angel

On Ice: ☒ Yes ☐ No# of Coolers: 2Cooler Temperature (°F): 13.0Cooler Temperature (°C): 5.0HEAL No: 2001907

Container Type and #

Preservative Type

Date Time Matrix Sample Name

1/21/20 0905 S Floor 8

1/21/20 0910 S Wall 9 North

1/21/20 0915 S Wall 9 South

1/21/20 0920 S Floor 9

1/21/20 0925 S Wall 10 North

1/21/20 0930 S Wall 10 South

1/21/20 0935 S Floor 10

1/21/20 0940 S Wall 11 North

1/21/20 0945 S Wall 11 South

1/21/20 0950 S Floor 11

1/21/20 0955 S Wall 12 North

1/21/20 1000 S Wall 12 South

Date Time Relinquished by:

1/22 6:45 Donna Lopez

Date Time Relinquished by:

1/22/20 1940 Donna LopezReceived by: Donna Lopez Date Time: 1/22/20 0945Received by: Donna Lopez Date Time: 1/22/20 0945Received by: Donna Lopez Date Time: 1/22/20 0945

Remarks:

Page 3 of 5

Black	White	Black
White	Black	White
Black	White	Black

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Chain-of-Custody Record									
Client: Mewbourne Oil Company		Turn-Around Time: <u>5 days</u> <input type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush							
Mailing Address:		Project Name: FNR 17 20 B2IP Federal Com 1							
Phone #:		Project #:							
email or Fax#:		Project Manager: Robbie Runnels							
QA/QC Package:		<input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation) <input type="checkbox"/> Accreditation: <input type="checkbox"/> Az Compliance <input type="checkbox"/> NELAC <input type="checkbox"/> Other <input type="checkbox"/> EDD (Type)							
Sampler: Kenny Angel		On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		# of Coolers: 7		Cooler Temp (including CO ₂): 1, 2, 3, 4, 5, 6, 7		HEAL No: 2001907	
Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type				
1/20/20	1105	S	Floor 16	1	Ice	-049			
1/20/20	1110	S	Wall 17 North	1	Ice	-050			
1/20/20	1115	S	Wall 17 South	1	Ice	-051			
1/20/20	1120	S	Floor 17	1	Ice	-052			
1/20/20	1125	S	Wall 18 North	1	Ice	-053			
1/20/20	1130	S	Wall 18 South	1	Ice	-054			
1/20/20	1135	S	Floor 18	1	Ice	-055			
1/20/20	1140	S	Wall 19 North	1	Ice	-056			
1/20/20	1145	S	Wall 19 South	1	Ice	-057			
1/20/20	1150	S	Wall 19 West	1	Ice	-058			
1/20/20	1155	S	Floor 19	1	Ice	-059			
				1	Ice	To 60			
Date:	Time:	Relinquished by:		Received by:		Date:		Time:	
1/22	6:45	<i>Robbie Runnels</i>		<i>[Signature]</i>		1/22/20		06:45	
Date:	Time:	Relinquished by:		Received by:		Date:		Time:	
1/24/20	11:00	<i>[Signature]</i>		<i>[Signature]</i>		01/23/20		09:20	

APPENDIX – C

C-141

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	
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 32.303547

Longitude -103.899399

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: FNR 17 20 W2IP Fed Com 3H	Site Type: Production
Date Release Discovered 12/4/2019 @ 14:27	API# (if applicable) 30-015-44578

Unit Letter	Section	Township	Range	County
J	17	23S	30E	Eddy

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


Cause of Release 4" steel transfer line developed the leak.

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? The release was larger than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Notice was given to Victoria Venegas on 12/5/2019 at 12:30 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>12/5/2019</u>
email: <u>rrunnels@mewbourne.com</u>	Telephone: <u>575-393-5905</u>
<u>OCD Only</u>	
Received by: _____	Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>+105</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _Robbie Runnels_____ Title: Environmental Specialist_____

Signature: __________ Date: 4/23/2020_____

email: _runnels@mewbourne.com_____ Telephone: _575-393-5905_____

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

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

Printed Name: _Robbie Runnels_ Title: _Environmental Specialist_

Signature:  Date: _4/20/2020_

email: __rrunnels@mewbourne.com_ Telephone: __575-393-5905_

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Incident ID	
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 Specialist

Signature:  Date: 4/23/2020

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____