

Incident ID	nAPP2231924026
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: Melodie Sanjari Title: Environmental Professional

Signature: Melodie Sanjari Date: 2/10/2023

email: msanjari@marathonoil.com Telephone: 575-988-8753

OCD Only

Received by: Jocelyn Harimon Date: 2/13/2023

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

Signature: Robert Hamlet Date: 6/13/2023



DEFERRAL REQUEST

MARATHON OIL COMPANY

Created for submission to New Mexico Oil Conservation Division on 02/10/2023

ASHLEY GIOVENGO
Project Environmental Scientist

ENERGIZING AMERICA

February 10, 2023

Environmental Incident Group

State of New Mexico

Energy, Minerals, and Natural Resources

New Mexico Oil Conservation Division

811 South First Street

Artesia, New Mexico 88210

RE: DEFERRAL REQUEST

COMPANY	Marathon Oil Company
LOCATION	Taylor Deep 12 Federal #006
API	30-015-38143
PLSS	Unit A Sec 12 T18S R31E
GPS	32.7682724, -103.8161163
INCIDENT ID	nAPP2231924026

BACKGROUND

Wescom, Inc., hereafter referred to as Wescom, has prepared this Remediation Report & Deferral Request on behalf of Marathon Oil Company, hereafter referred to as Marathon, regarding the release at the Taylor Deep 12 Federal #006 (Site) located in Unit A, Section 12, Township 18 South and Range 31 East in Eddy County, New Mexico. The GPS coordinates are as follows: North 32.7682724 and West -103.8161163. Surface owner of the Site is Bureau of Land Management (BLM).

On November 14, 2022, Marathon personnel arrived onsite to standing fluid inside the tank and heater treater containments. It was determined that the well was frac hit, which caused a large surge in production. This incident resulted in the release of approximately 91.5 barrels (bbls) of crude oil and 213.7 bbls of produced water inside the gravel-lined secondary containments. The large volume of standing fluid inside the containments caused the berms to fail and impact two areas off-pad. An area measuring approximately 2,877 square feet (sq. ft.) was impacted on the Southwest corner of the tank containment and an area measuring approximately 1,172 sq. ft. in size was impacted on the South side of the heater treater containment as shown in Figure 1.

Wescom personnel arrived onsite on November 16, 2022, to place an emergency one-call and to complete an initial scrape of the most impacted areas off site. On December 02, 2022, Wescom personnel returned to the Site to perform delineation sampling of the off-pad spill areas. Wescom personnel also completed a liner inspection of



the tank containment on January 11, 2023, and it was determined that there were five holes below the fluid level in the tank containment liner and one area behind the center production tank where the liner was separating. A hydrovac and hand crew was utilized to remove the gravel from inside tank containment prior to the liner inspection.

On January 12, 2023, Wescom completed a liner inspection of the heater treater containment, and three holes were found in the Northeast corner of the containment liner. The remaining portion of the heater treater containment was covered with gravel and removal of the gravel posed a high risk for puncture or damage via hand tools. As noted in the liner Integrity Inspection Form, gravel was removed by hand to expose 5 additional portions of the liner, roughly two sq. ft. in area. There no rips, tears or pinholes observed in the exposed areas, see Attachment F.

Remediation of the off-pad spill areas was conducted on January 12, 2023, and final confirmation samples were collected. Confirmation samples collected from spill area on the Southwest corner of the tank containment and from the spill area on the South side of the heater treater all met the reclamation standard for off-pad spill cleanups.

Wescom personnel returned to the Site on January 13, 2023, to delineate the soils beneath the holes in the containment liners. The liner was cut to allow sampling beneath the liners and was immediately repaired by Wescom. Samples collected on surface indicated impact; additional samples were collected to determine the vertical extent. Removal of impacted soils below the lined secondary containments would not be possible without deconstruction of production equipment and impacted soils do not pose imminent risk. Therefore, Marathon respectfully requests deferral for the removal of soils below the tank and heater treater containments until the well is plugged and the facilities are removed.

SURFACE & GROUND WATER

The New Mexico Office of the State Engineer (OSE) records indicates the nearest depth to groundwater measurement is greater than 105 feet below ground surface (bgs) and is 3.1 miles Northeast of the Site. No playas or lakes are located within a one-mile radius of this Site (Attachment C).

KARST POTENTIAL

According to data from the Bureau of Land Management, this Site is located within low karst potential as shown in Attachment D. There are no indicators of karst around the Site surface.

TARGET REMEDIAL LEVELS

The target cleanup levels are determined using the NMOCD Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC, inserted below) including karst guidelines from the Bureau of Land Management. This Site is greater



than 0.5 miles from the nearest depth to groundwater measurement and therefore, the applicable Recommended Remediation Action Levels (RRALs) are 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethyl benzene, and xylene (BTEX) and 100 ppm Total Petroleum Hydrocarbons (TPH). A chloride concentration at or below 600 mg/kg (ppm) in the soil is also required.

Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)						
Taylor Deep 12 Federal #006 — 32.768272, -103.816116						
Depth to Groundwater		Closure Criteria (unites in mg/kg)				
		Chloride * numerical limit or background, whichever is greater	TPH	GRO+DRO	BTEX	Benzene
Based on high karst potential		600	100		50	10
No water data within 0.5 mile radius	3.1 Miles	600	100		50	10
less than 50 ft bgs		600	100		50	10
51 ft to 100 ft bgs		10000	2500	1000	50	10
greater than 100 ft bgs		20000	2500	1000	50	10
Surface Water	Yes or No	If yes, then				
< 300 feet from continuously flowing watercourse or other significant watercourse?	No					
< 200 feet from lakebed, sinkhole or playa lake	No					
Water Well or Water Source						
< 500 feet from spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?	No					
< 1000 feet from fresh water well or spring?	No					
Human and Other Areas						
< 300 feet from an occupied permanent residence, school, hospital, institution or church?	No					
Within incorporated municipal boundaries or within a defined municipal fresh water well field?	No					
< 100 feet from wetland?	No					
Within area overlying a subsurface mine?	No					
Within an unstable area?	No					
Within a 100-year floodplan?	No					

Table: Closure Criteria Statistics

SITE ASSESSMENT AND DELINEATION

On November 16, 2022, Marathon contracted Wescom to complete and initial scrape of the two impacted areas off-pad -- the spill area on the Southwest corner of the tank containment and the spill area on the South side of the heater treater containment (see Figures 1 and 2). Wescom personnel returned to the site on December 02, 2022, to complete horizontal and vertical delineation sampling of the off-pad spill areas. Delineation samples SS01 through SS04 were collected from the spill area on the South side of the heater treater and delineation samples SS05 through SS08 were collected from the spill area on the Southwest corner of the tank containment as shown in Figure 1. All samples were below the strictest criteria per Table 1 NMAC and showed the initial response was successful. A background sample, BG01, was collected 62 feet South of the caliche pad.

On January 11, 2023, Wescom completed a liner inspection of the tank containment and during the liner inspection, five holes were observed. In addition to the five holes, there was one area located directly behind the middle production tank where the liner was separating as shown in Attachment B. On January 12, 2023, Wescom personnel completed a liner inspection on the heater treater containment liner and three holes were found in the Northeast corner of the containment liner. Due to the presence of gravel in the remainder of the



containment, gravel was carefully removed by hand to expose five portions of the liner roughly two sq. ft. in area, see Attachment F. In the exposed areas, there were no rips, tears or pinholes observed as shown in Attachment B. All remaining gravel was also pressure washed to be free of any contamination from the initial release.

Wescom personnel returned to the Site on January 13, 2023, to complete delineation sampling beneath the containment liners. Vertical delineation samples (SS09 through SS11) were collected from the three holes in the Northeast corner of the containment liner. Vertical delineation to the strictest criteria was achieved at surface in sample location SS09 and at one-foot bgs in sample locations SS10 and SS11. Horizontal delineation samples SS17C and SS18B were collected on the North and West sides of the heater treater containment as shown in Figure 3.

Vertical delineation samples (SS12 through SS16) were collected from the five holes in the tank containment liner and sample SS21 was collected from the separation in the liner that was observed behind the center production tank. Impacts did not extend below surface in sample location SS13, however impacts were observed at a depth of one-foot bgs in sample locations SS14, and SS16 and at two feet bgs in sample location SS21. Sample SS19A and SS20 were collected from the East and North sides of the tank containment to establish horizontal delineation (see Figure 3).

A total of 35 delineation samples were jarred and sent to Hall Environmental, for laboratory analysis. Delineation sample locations are presented in Figures 1 and 3; laboratory analysis results are presented in Table 1 and laboratory analytical reports are included in Attachment E.

REMEDATION ACTIVITIES

On November 16, 2022, Marathon contracted Wescom to complete and initial scrape of the two impacted areas off-pad, as shown in Figure 2. Wescom personnel returned to the Site on January 12, 2023, to oversee the removal of the remaining impacted soils and to conduct final confirmation sampling. A backhoe was used to remove approximately 200 yards of contaminated soil from the off-pad spill areas. Impacted material from the spill areas was hauled to an approved disposal facility.

Wescom personnel collected 17 composite confirmation samples and six side wall samples over the three-day sampling and excavation period. All the confirmation samples were below the strictest criteria per Table 1 NMAC and meet the reclamation standard for off-pad spill cleanups, as shown in Table 2. All soil samples were properly packaged, preserved, and transported to Hall Environmental by chain of custody, and analyzed for Total Petroleum Hydrocarbons, or TPH, —Method 8015D, BTEX—Method 8021B, and Chlorides—Method 300.0. Confirmation sample locations are presented in Figure 2 and laboratory analytical reports are included in Attachment E.

The required 48-hour confirmation sampling and liner inspection notifications were sent on January 9, 2023, to OCD.Enviro@emnrd.nm.gov and are included in Attachment G.



REQUEST FOR DEFERRAL

On behalf of Marathon, Wescom requests to defer approximately 90 cubic yards of contaminated soil from beneath the tank containment and 7 cubic yards of soil from beneath the heater treater containment.

Deferral request is for two areas indicated on Figure 4, based on the logic below, until the Taylor Deep 12 Federal #006 Site is abandoned, and reclamation activities commence.

- Due to the location of the contaminated soil beneath the tank and heater treater containments it is not practical to remove for remediation. The wellhead is currently in production and would require shutting in for an extended period to remove substrate. Areas of requested deferral are shown in Figure 4.
- Confirmation areas and samples collected from the off-pad spill areas are below applicable RRALs for the Site and meet the reclamation standard 19.15.29.13 NMAC.
- The off-pad spill areas have been horizontally and vertically delineated.
- Release points inside the tank and heater treater containments have been vertically delineated. Areas surrounding the tank and heater treater containments have been horizontally delineated.
- All delineation samples are below the applicable RRALs for the Site.

If you have any questions or comments, please do not hesitate to call Ms. Ashley Giovengo at (505) 382-1211.

Sincerely,

Wescom, Inc.

Ashley Giovengo

Project Environmental Scientist

cc: Melodie Sanjari, Marathon Oil Company
Environmental Incident Group, NMOCD



REFERENCE MATERIALS

FIGURES

FIGURE 1. Delineation Sampling (Off-Pad)

FIGURE 2. Confirmation Sampling

FIGURE 3. Delineation Sampling (Containments)

FIGURE 4. Deferral Areas

TABLES

TABLE 1. Laboratory Analysis Results: Delineation Samples

TABLE 2. Laboratory Analysis Results: Confirmation Samples

ATTACHMENTS

ATTACHMENT A. C-141

ATTACHMENT B. Site Photos

ATTACHMENT C. Closure Criteria Supporting Documents

ATTACHMENT D. Karst Map

ATTACHMENT E. Hall Environmental Laboratory Analysis Reports

ATTACHMENT F. Liner Integrity Inspection Forms

ATTACHMENT G. 48-hour Confirmation Notification Emails



FIGURES



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Taylor Deep 12 Federal #006 | Incident ID: nAPP2231924026

**FIGURE 1. DELINEATION SAMPLING (OFF-PAD)**

Taylor Deep 12 Federal #006

Incident ID: nAPP2231924026

API: 30-015-38143

GPS Coordinates: 32.7682724, -103.8161163

Eddy County, New Mexico

Marathon Oil Company

LEGENDDelineation Sample
Locations

Spill Area





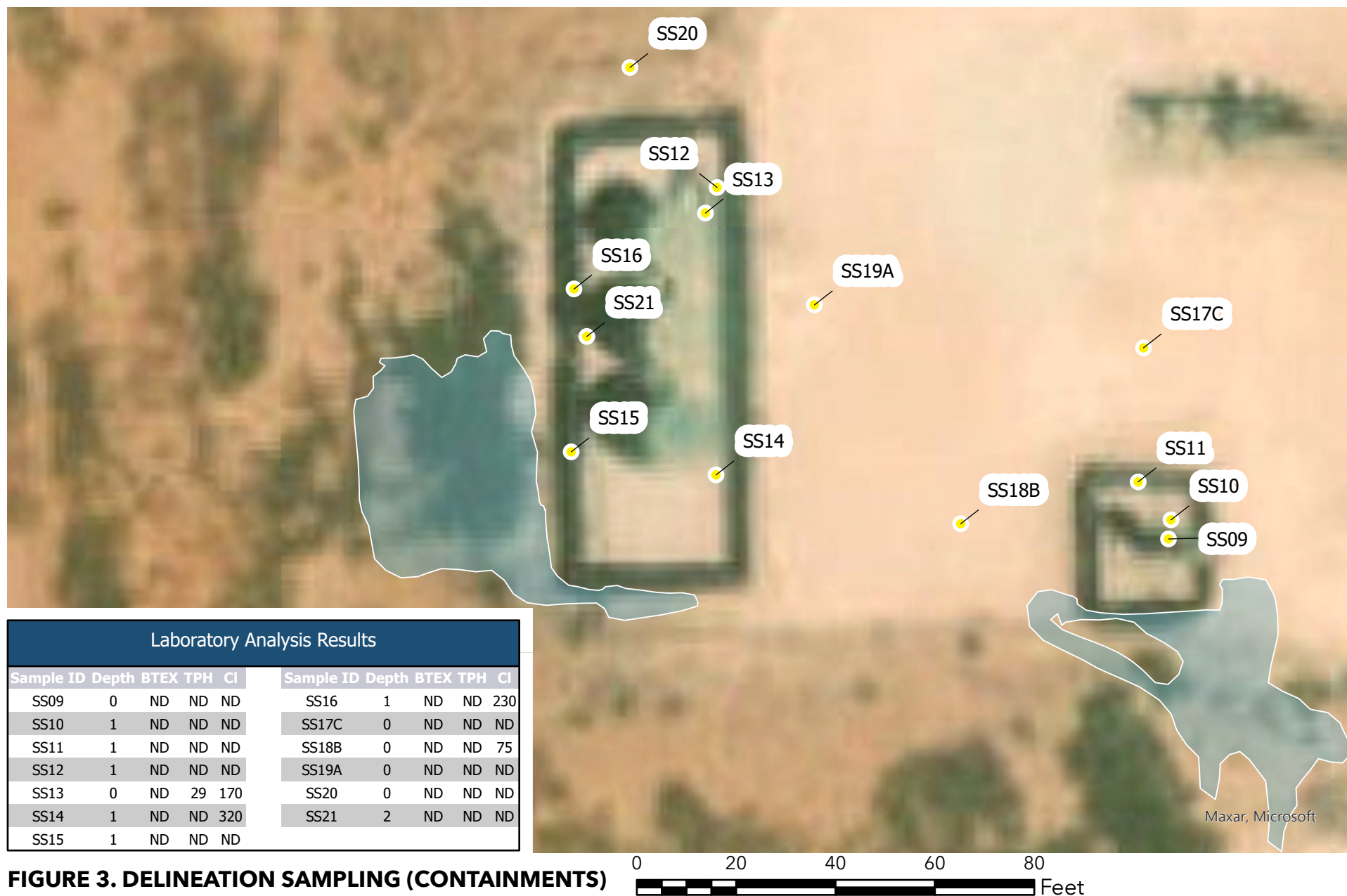
FIGURE 2.
CONFIRMATION SAMPLING
(OFF-PAD)

Taylor Deep 12 Federal #006
Incident ID: nAPP2231924026
API: 30-015-38143
GPS Coordinates:
32.7682724, -103.8161163
Eddy County, New Mexico
Marathon Oil Company

LEGEND

- Confirmation Sample Locations
- Spill Area

Laboratory Analysis Results									
Sample ID	Depth	BTEX	TPH	CI	Sample ID	Depth	BTEX	TPH	CI
BG01	1	ND	ND	ND	CONF12 Wall	0.5	ND	ND	ND
CONF01	1.5	ND	ND	ND	CONF13 Wall	0.5	ND	ND	ND
CONF02	1.5	ND	ND	ND	CONF14 Wall	0.5	ND	ND	ND
CONF03	1.5	ND	ND	ND	CONF15	0.5	ND	ND	ND
CONF04	1.5	ND	13	ND	CONF16	0.5	ND	ND	ND
CONF05	1.5	ND	ND	ND	CONF17	0.5	ND	ND	ND
CONF06	1.5	ND	13	ND	CONF18	0.5	ND	ND	ND
CONF07	1.5	ND	ND	ND	CONF19	0.5	ND	ND	ND
CONF08	2	ND	ND	130	CONF20	0.5	ND	9.3	ND
CONF09	1.5	ND	ND	ND	CONF21	1	ND	ND	ND
CONF10	1.5	ND	ND	ND	CONF22 Wall	0.5	ND	ND	ND
CONF11 Wall	0.5	ND	ND	ND	CONF23 Wall	0	ND	ND	ND

**FIGURE 3. DELINEATION SAMPLING (CONTAINMENTS)**

Taylor Deep 12 Federal #006
 Incident ID: nAPP2231924026
 API: 30-015-38143
 GPS Coordinates: 32.7682724, -103.8161163
 Eddy County, New Mexico
 Marathon Oil Company

LEGEND

● Delineation Sample Locations

■ Spill Area





FIGURE 4.
DEFERRAL AREAS

Taylor Deep 12 Federal #006
Incident ID: nAPP2231924026
API: 30-015-38143
GPS Coordinates:
32.7682724, -103.8161163
Eddy County, New Mexico
Marathon Oil Company

LEGEND
● Delineation Sample Locations
▨ Area of Requested Deferral (Tank Containment)
▨ Area of Requested Deferral (Heater Treater Containment)



TABLES



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Taylor Deep 12 Federal #006 | Incident ID: nAPP2231924026

Taylor Deep 12 Federal #006 nAPP2231924026						
Marathon Oil Company 2.09.2023						
Table 1. Laboratory Analysis Results: Delineation Samples						
Sample Description			Petroleum Hydrocarbons			Inorganic
Sample ID	Depth (ft.)	Date	Volatile		Extractable	Chloride (mk/kg)
			Benzene (mk/kg)	Total BTEX (mk/kg)	TPH (mk/kg)	
Closure Criteria			10	50	100	600
BG01	0	12/2/2022	ND	ND	ND	ND
BG01	1	12/2/2022	ND	ND	ND	ND
SS01	0	12/2/2022	ND	ND	ND	ND
SS02	0	12/2/2022	ND	ND	ND	ND
SS03A	0	12/2/2022	ND	ND	ND	ND
SS04	0	12/2/2022	ND	ND	39	ND
SS04	1	12/2/2022	ND	ND	ND	ND
SS05	0	12/2/2022	ND	ND	ND	ND
SS06	0	12/2/2022	ND	ND	ND	ND
SS07	0	12/2/2022	ND	ND	ND	ND
SS08	0	12/2/2022	0.39	262.39	110000	130
SS08	1	12/2/2022	ND	ND	ND	100
SS09	0	1/13/2023	ND	ND	ND	ND
SS09	1	1/13/2023	ND	ND	ND	ND
SS10	0	1/13/2023	ND	2.9	5607.9	ND
SS10	1	1/13/2023	ND	ND	ND	ND
SS11	0	1/13/2023	ND	1.2	5700	ND
SS11	1	1/13/2023	ND	ND	ND	ND
SS12	0	1/13/2023	ND	ND	2800	ND
SS12	1	1/13/2023	ND	ND	ND	ND
SS13	0	1/13/2023	ND	ND	29	170
SS13	1	1/13/2023	ND	ND	ND	ND
SS14	0	1/13/2023	ND	4.4	3800	140
SS14	1	1/13/2023	ND	ND	ND	320
ABBREVIATIONS						
BTEX — Benzene, Toluene, Ethylene, Xylene			GRO — Gasoline Range Organics			
DRO — Diesel Range Organics			ND — Non-detect			
ft. — Feet			mg/kg — Milligrams per Kilogram			
TPH — Total Petroleum Hydrocarbons						
Notes						
Bold Red - Results are above closure criteria						
Gray Highlight - Background Samples						



Taylor Deep 12 Federal #006 nAPP2231924026						
Marathon Oil Company 2.09.2023						
Table 1. Laboratory Analysis Results: Delineation Samples						
Sample Description			Petroleum Hydrocarbons			Inorganic
Sample ID	Depth (ft.)	Date	Volatile		Extractable	Chloride (mk/kg)
			Benzene (mk/kg)	Total BTEX (mk/kg)	TPH (mk/kg)	
Closure Criteria			10	50	100	600
SS15	0	1/13/2023	ND	ND	1420	ND
SS15	1	1/13/2023	ND	ND	ND	340
SS16	0	1/13/2023	ND	ND	290	840
SS16	1	1/13/2023	ND	ND	ND	230
SS17B	0	1/13/2023	ND	ND	12	2200
SS17C	0	1/31/2023	ND	ND	ND	ND
SS18	0	1/13/2023	ND	ND	3500	ND
SS18B	0	2/7/2023	ND	ND	ND	75
SS19A	0	1/13/2023	ND	ND	ND	ND
SS20	0	1/13/2023	ND	ND	ND	ND
SS21	0	1/13/2023	ND	130.89	20700	ND
SS21	1	1/13/2023	ND	ND	115	ND
SS21	2	1/31/2023	ND	ND	ND	ND
ABBREVIATIONS						
BTEX — Benzene, Toluene, Ethylene, Xylene			GRO — Gasoline Range Organics			
DRO — Diesel Range Organics			ND — Non-detect			
ft. — Feet			mg/kg — Milligrams per Kilogram			
TPH — Total Petroleum Hydrocarbons						
Notes						
Bold Red - Results are above closure criteria						
Gray Highlight - Background Samples						



Taylor Deep 12 Federal #006 | nAPP2231924026

Marathon Oil Company | 2.09.23

Table 2. Laboratory Analysis Results: Confirmation Samples

Sample Description			Petroleum Hydrocarbons				Inorganic
Sample ID	Depth (ft.)	Date	Volatile		Extractable		Chloride (mk/kg)
			Benzene (mk/kg)	Total BTEX (mk/kg)	TPH (mk/kg)	GRO+DRO (mk/kg)	
Closure Criteria			10	50	2500	1000	20000
CONF01	1.5	1/12/2023	ND	ND	ND	ND	ND
CONF02	1.5	1/12/2023	ND	ND	ND	ND	ND
CONF03	1.5	1/12/2023	ND	ND	ND	ND	ND
CONF04	1.5	1/12/2023	ND	ND	13	13	ND
CONF05	1.5	1/12/2023	ND	ND	ND	ND	ND
CONF06	1.5	1/12/2023	ND	ND	13	13	ND
CONF07	1.5	1/12/2023	ND	ND	ND	ND	ND
CONF08	2	1/13/2023	ND	ND	ND	ND	130
CONF09	1.5	1/12/2023	ND	ND	ND	ND	ND
CONF10	1.5	1/12/2023	ND	ND	ND	ND	ND
CONF11 Wall	0.5	1/12/2023	ND	ND	ND	ND	ND
CONF12 Wall	0.5	1/12/2023	ND	ND	ND	ND	ND
CONF13 Wall	0.5	1/12/2023	ND	ND	ND	ND	ND
CONF14 Wall	0.5	1/12/2023	ND	ND	ND	ND	ND
CONF15	0.5	1/13/2023	ND	ND	ND	ND	ND
CONF16	0.5	1/13/2023	ND	ND	ND	ND	ND
CONF17	0.5	1/13/2023	ND	ND	ND	ND	ND
CONF18	0.5	1/13/2023	ND	ND	ND	ND	ND
CONF19	0.5	1/13/2023	ND	ND	ND	ND	ND
CONF20	0.5	1/13/2023	ND	ND	9.3	9.3	ND
CONF21	1	1/13/2023	ND	ND	ND	ND	ND
CONF22 Wall	0.5	1/13/2023	ND	ND	ND	ND	ND
CONF23 Wall	0	1/13/2023	ND	ND	ND	ND	ND

ABBREVIATIONS

BTEX — Benzene, Toluene, Ethylene, Xylene

GRO — Gasoline Range Organics

DRO — Diesel Range Organics

ND — Non-detect

ft. — Feet

mg/kg — Milligrams per Kilogram

TPH — Total Petroleum Hydrocarbons

Notes

Bold Red - Results are above closure criteria

Gray Highlight - Background Samples



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Taylor Deep 12 Federal #006 | Incident ID: nAPP2231924026

ATTACHMENT A

C-141



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Taylor Deep 12 Federal #006 | Incident ID: nAPP2231924026

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	nAPP2231924026
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Marathon Oil Permian LLC	OGRID 372098
Contact Name Melodie Sanjari	Contact Telephone 575-988-8753
Contact email msanjari@marathonoil.com	Incident # (assigned by OCD)
Contact mailing address 4111 S. Tidwell Rd., Carlsbad, NM 8220	

Location of Release Source

Latitude 32.7682724 Longitude -103.8161163
(NAD 83 in decimal degrees to 5 decimal places)

Site Name TAYLOR DEEP 12 FEDERAL #006	Site Type Oil & Gas Facility
Date Release Discovered: 11/14/2022	API# (if applicable) 30-015-38143

Unit Letter	Section	Township	Range	County
A	12	18S	31E	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 checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 91.5	Volume Recovered (bbls) 78
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 213.7	Volume Recovered (bbls) 192
	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

Night operator arrived on location to standing fluid within the tank and heater treater, gravel filled secondary containments and all of the tanks full. The well was shut in and it was determined that the well was frac hit, which caused a large surge in production. The following morning, it was noted that the large volume had caused the berms to fail which allowed fluid to run on the pad and slightly on the pasture. A total of 270 bbl. of the 305 total was recovered and the impacted surficial material was removed to prevent lateral or vertical migration.

Incident ID	nAPP2231924026
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? Volume.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, NOR submitted 11/15/2022	

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:	
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>Melodie Sanjari</u>	Title: <u>Environmental Professional</u>
Signature: <u>Melodie Sanjari</u>	Date: 11/17/2022
email: <u>msanjari@marathonoil.com</u>	Telephone: <u>575-988-8753</u>
<u>OCD Only</u>	
Received by: <u>Jocelyn Harimon</u>	Date: <u>2/13/2023</u>

Incident ID	nAPP2231924026
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>108</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input 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	nAPP2231924026
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: Melodie Sanjari Title: Environmental
Professional _____

Signature: Melodie Sanjari Date: 2/10/2023
email: msanjari@marathonoil.com Telephone: 575-988-8753

OCD Only

Received by: Jocelyn Harimon Date: 2/13/2023

Incident ID	nAPP2231924026
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: Melodie Sanjari Title: Environmental Professional

Signature: Melodie Sanjari Date: 2/10/2023

email: msanjari@marathonoil.com Telephone: 575-988-8753

OCD Only

Received by: Jocelyn Harimon Date: 2/13/2023

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

Signature: _____ Date: _____

ATTACHMENT B

Site Photos



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Taylor Deep 12 Federal #006 | Incident ID: nAPP2231924026



Spill Area



Spill Area



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Spill Area



Initial Scrape



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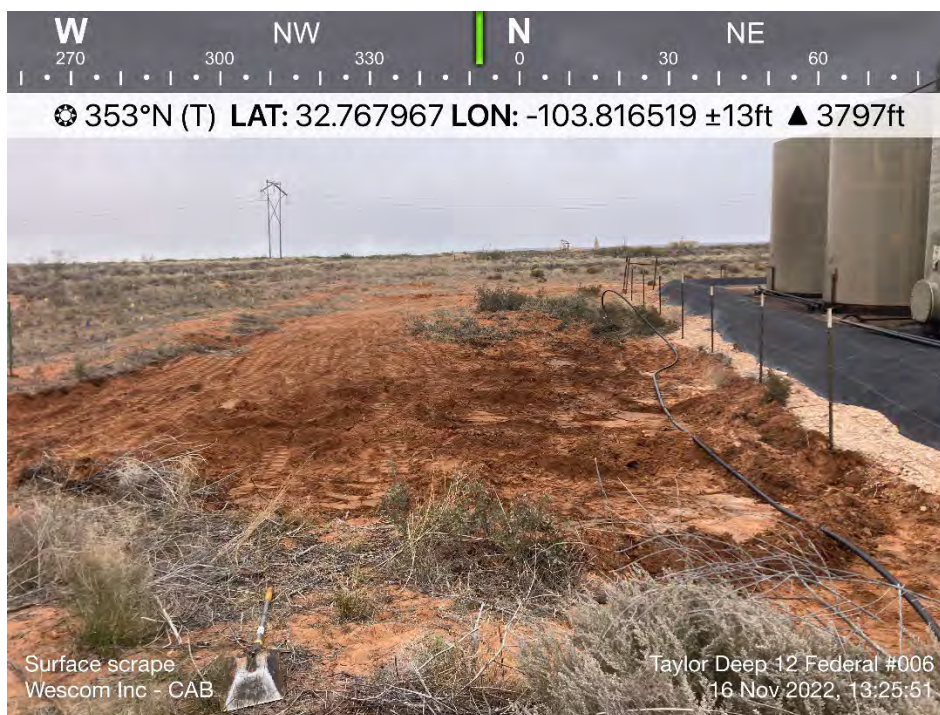
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Initial Scrape



Initial Scrape



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Contaminated Soil



Heater Treater Spill Area

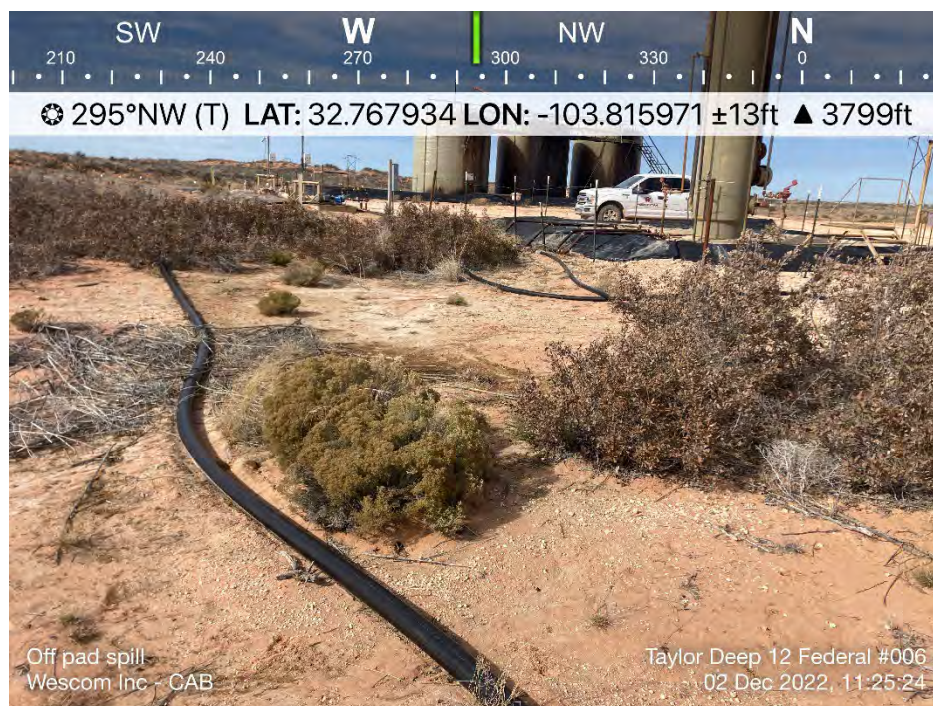


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Heater Treater Spill Area



Heater Treater Spill Area



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Hole in liner behind stairs (SS12)



Hole 5ft South of stairs (SS13)



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Hole 30ft South of Northwest Corner (SS16)



Hole 20ft North of Southwest Corner (SS15)



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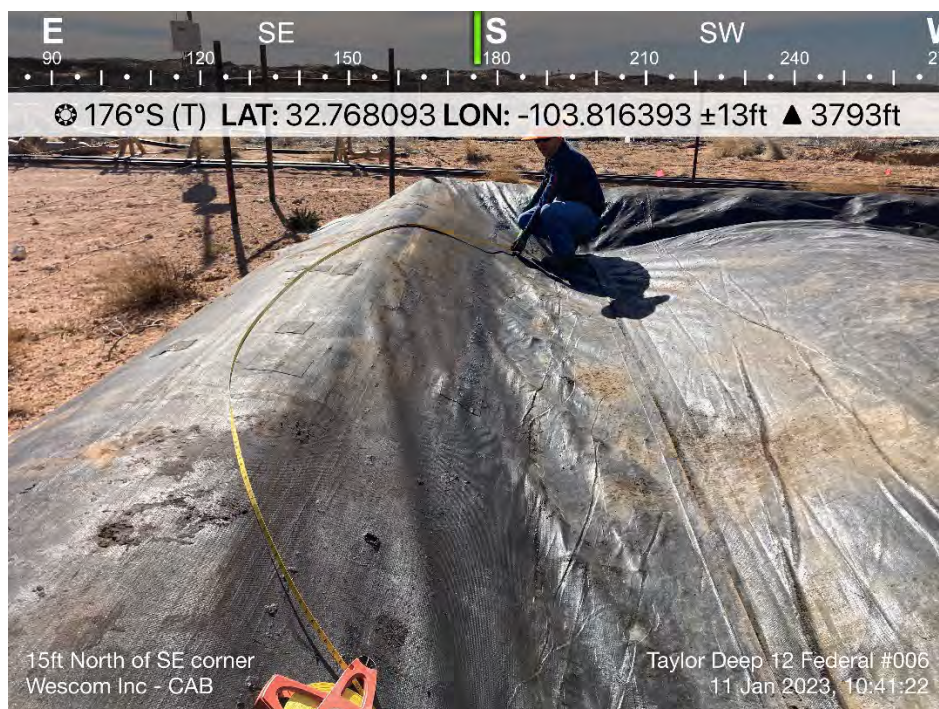
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Hole 15ft North of Southeast corner (SS14)



Hole 15ft North of Southeast corner (SS14)



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Excavated area West of tanks



Excavated area West of tanks



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Excavated area South of Heater Treater



Hand digging South of tanks

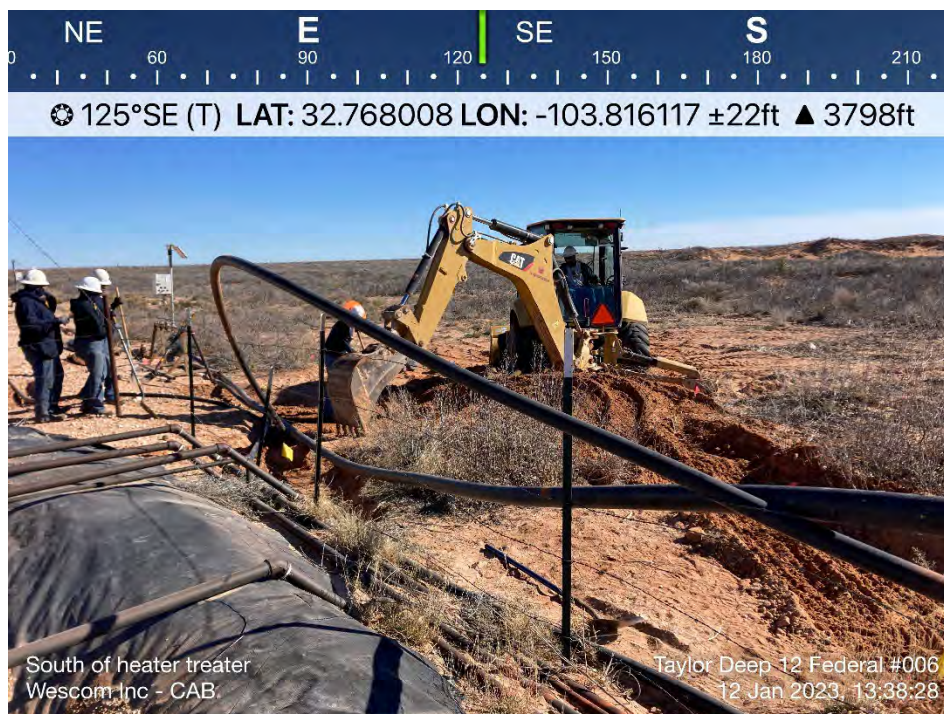


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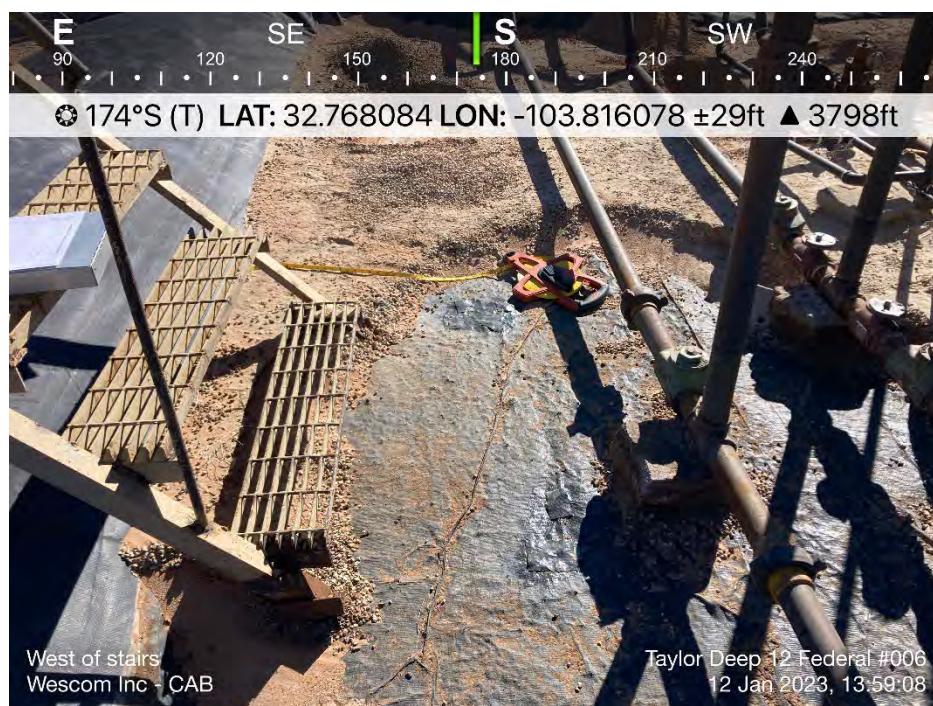
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Taylor Deep 12 Federal #006 | Incident: nAPP2231924026

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Excavated area South of Heater Treater



2 Holes West of stairs at heater treater (SS09 & SS10)

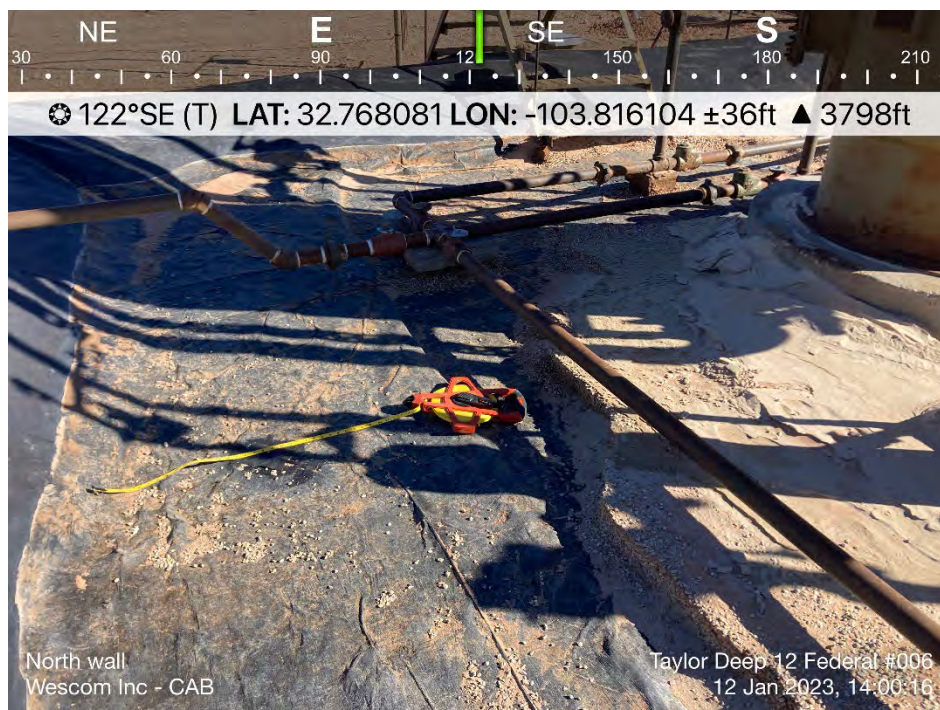


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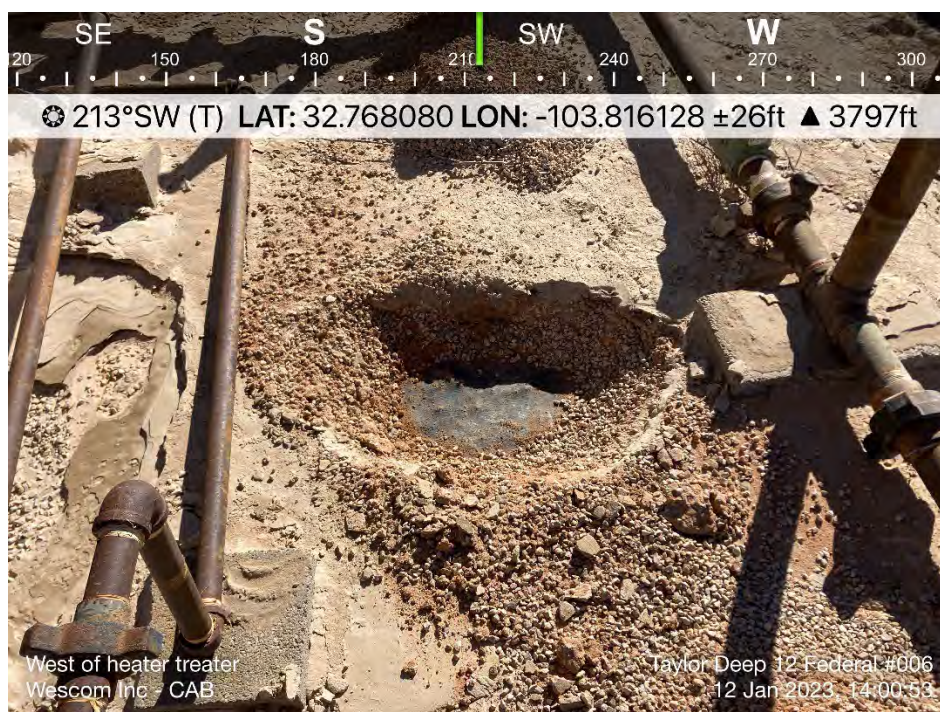
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Hole North of heater treater (SS11)



Spot check under gravel West of heater treater



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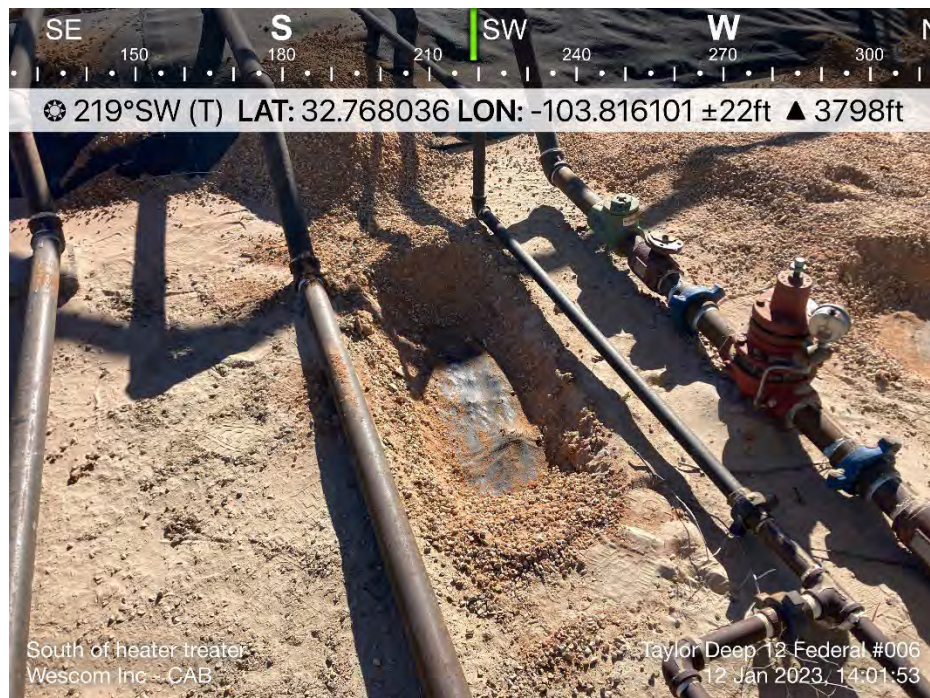
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Spot checks under gravel Southwest of heater treater



Spot check under gravel South of heater treater



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Spot check under gravel Southeast of heater treater



Delineation under liner (SS09 & SS10)



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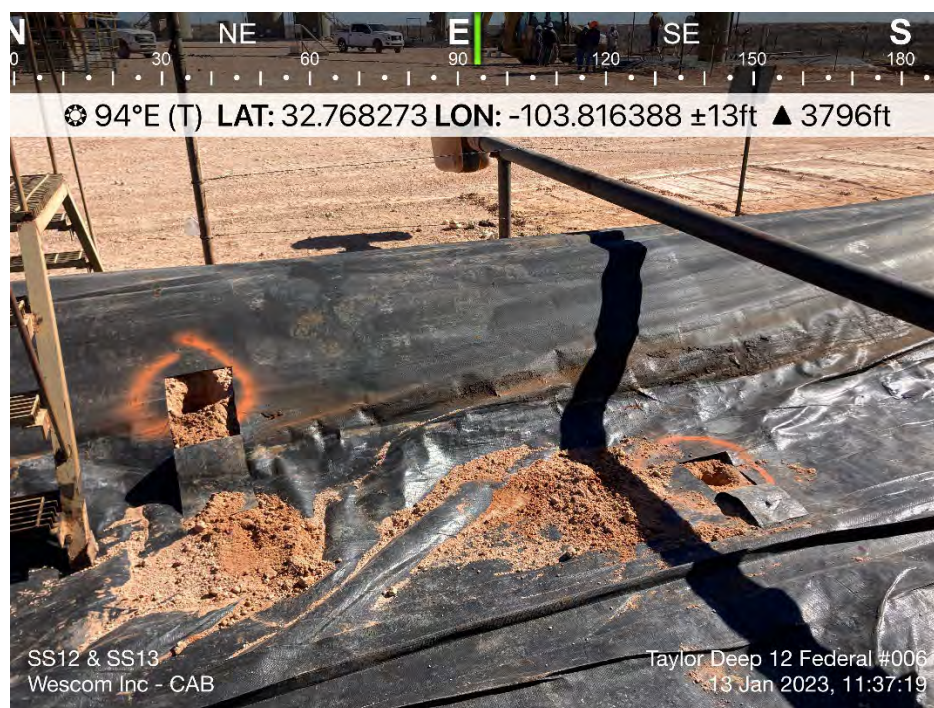
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Delineation under liner (SS11)



Delineation under liner (SS12 & SS13)

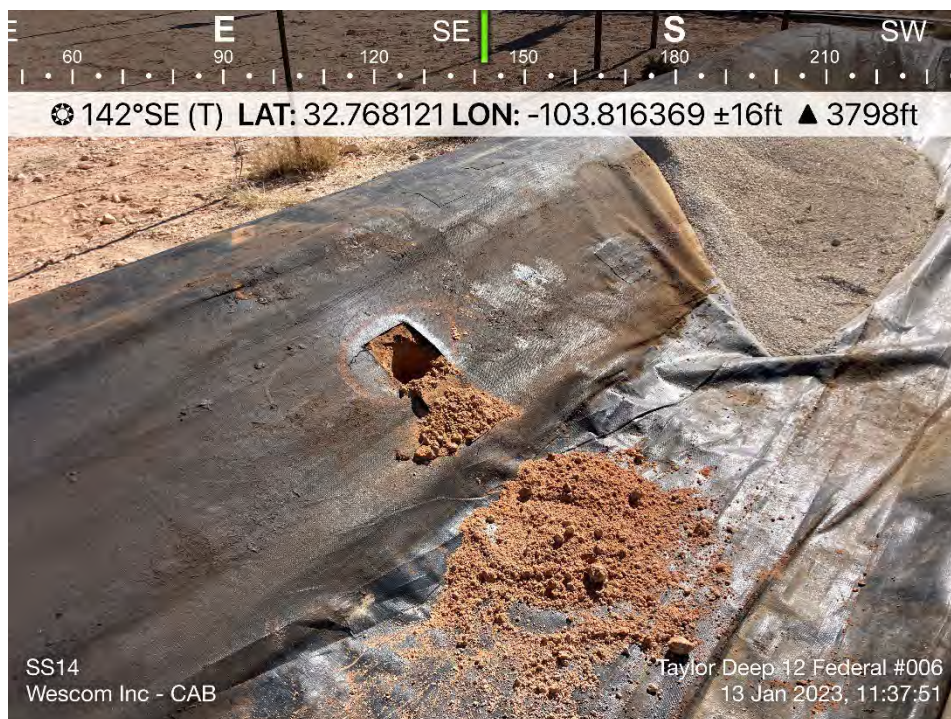


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*Delineation under liner (SS14)**Delineation under liner (SS15)***Energizing America**

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Delineation under liner (SS16)



Liner holes repaired



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Liner holes repaired



Liner holes repaired



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Liner separation behind center tank and delineation under liner (SS21)



Excavated area South of heater treater

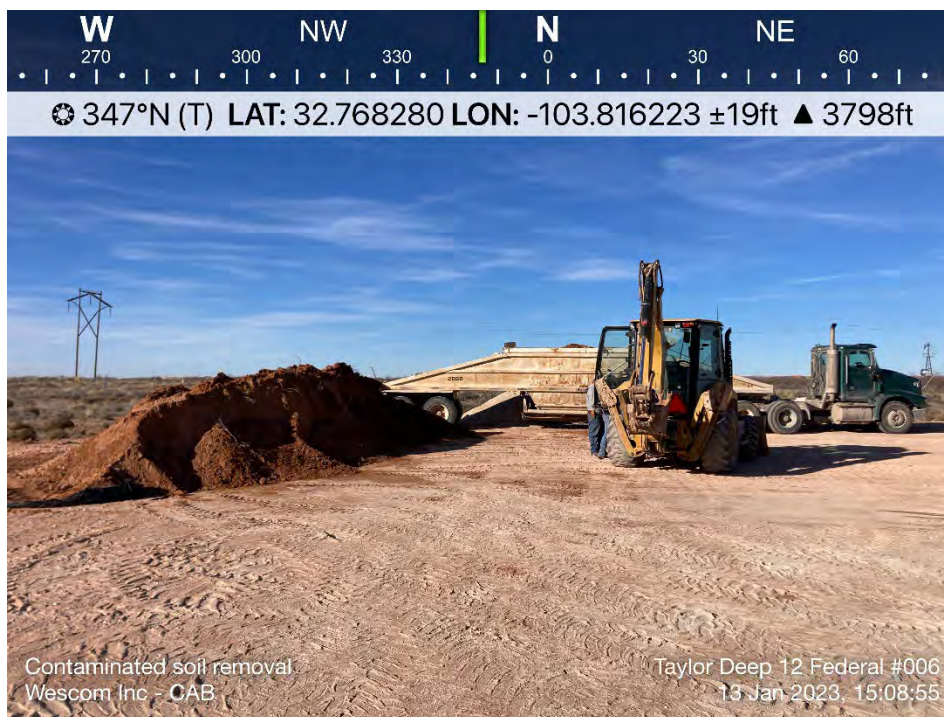


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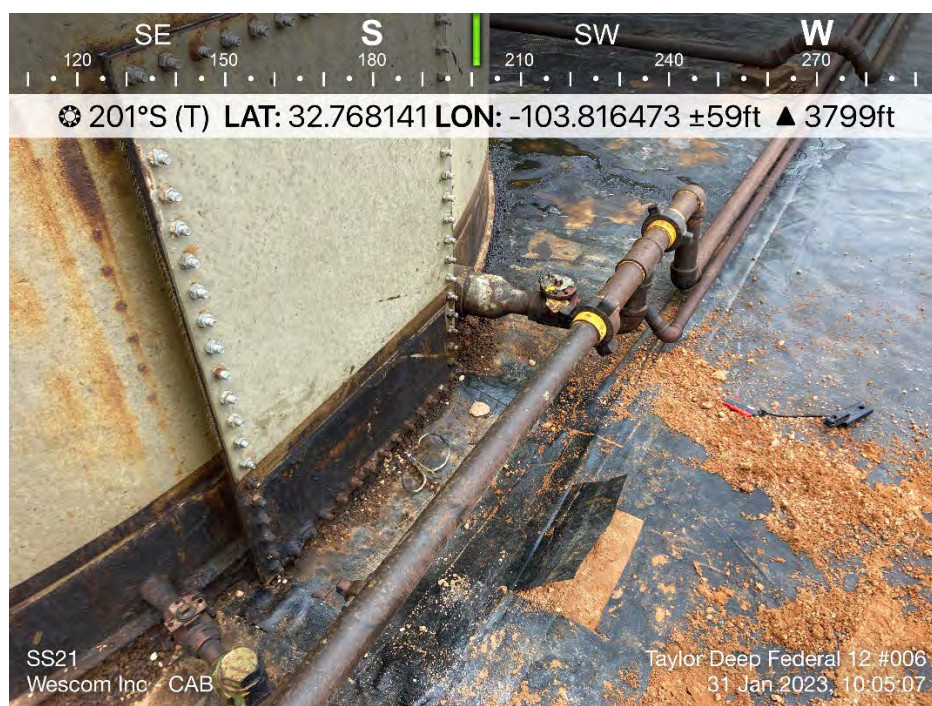
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Excavated soil removed



Recollect sample SS21 - 2' & 3'

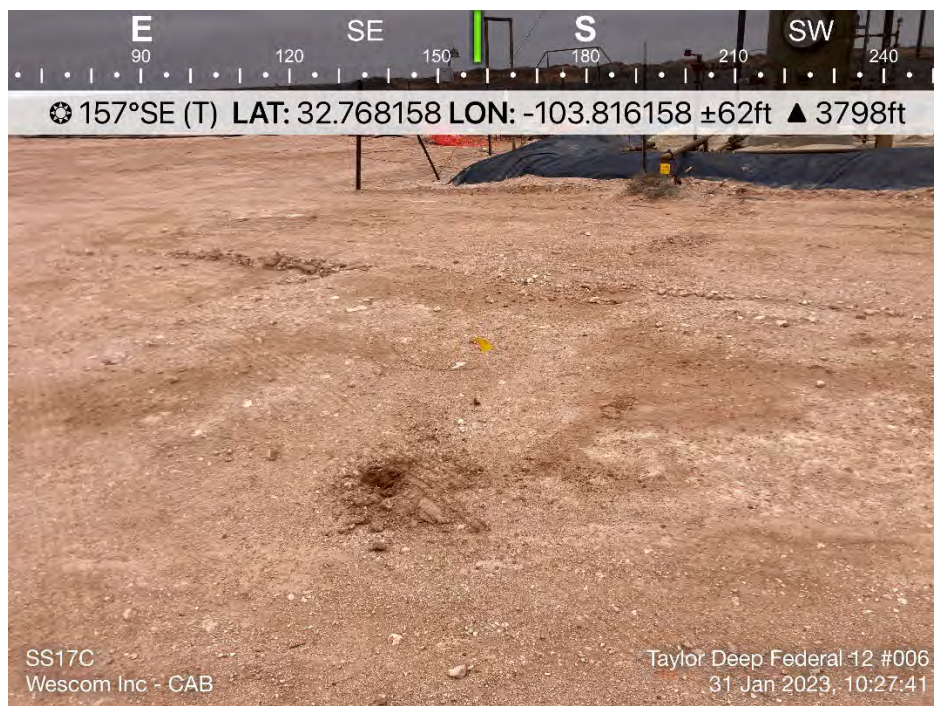


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Recollect sample SS17C



Recollect sample SS18B



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ATTACHMENT C

Closure Criteria Supporting Documents



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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		q q q										Log File			Depth	Depth			License		
POD Number	Code	Subbasin	County	Source	6416 4	4	Sec	Tw	Rng	X	Y	Distance	Start Date	Finish Date	Date	Well	Water	Driller	Number		
CP 00672		CP	LE	Shallow	4	4	07	18S	32E	612475	3624947*	<input type="checkbox"/>	2035	07/17/1992	08/07/1992	08/12/1992	524	430	ABBOTT, MURRELL	46	
CP 00672 CLW475398	O	CP	LE	Shallow	4	4	07	18S	32E	612475	3624947*	<input type="checkbox"/>	2035	01/22/1985	01/29/1985	02/08/1985	540	460	FELKINS, LARRY	882	
CP 00566 POD1		CP	LE	Shallow	4	4	1	04	18S	32E	614960	3627280*	<input type="checkbox"/>	4211	06/01/1977	06/03/1977	06/13/1977	133	65	ABBOTT, MURRELL	46
RA 12721 POD8		RA	LE	Shallow	1	2	1	33	17S	32E	614640	3629463	<input type="checkbox"/>	4963	09/28/2020	09/28/2020	10/14/2020	130	108	JOHN W WHITE	1456

Record Count: 4

UTMNAD83 Radius Search (in meters):

Easting (X): 610885

Northing (Y): 3626218.13

Radius: 5000

*UTM location was derived from PLSS - see Help

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

11/28/22 8:40 AM

WELLS WITH WELL LOG INFORMATION



New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	RA 12721 POD8	1	2	1	33	17S	32E	614640	3629463

Driller License: 1456	Driller Company: WHITE DRILLING COMPANY
Driller Name: JOHN W WHITE	
Drill Start Date: 09/28/2020	Drill Finish Date: 09/28/2020
Log File Date: 10/14/2020	PCW Rcv Date:
Pump Type:	Estimated Yield: 0 GPM
Casing Size: 2.00	Depth Well: 130 feet
	Depth Water: 108 feet

Water Bearing Stratifications:	Top	Bottom	Description
	106	115	Sandstone/Gravel/Conglomerate
	115	117	Sandstone/Gravel/Conglomerate
	117	118	Sandstone/Gravel/Conglomerate
	118	130	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	90	130

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

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POD SUMMARY - RA 12721 POD8


Taylor Deep 12 Federal #006

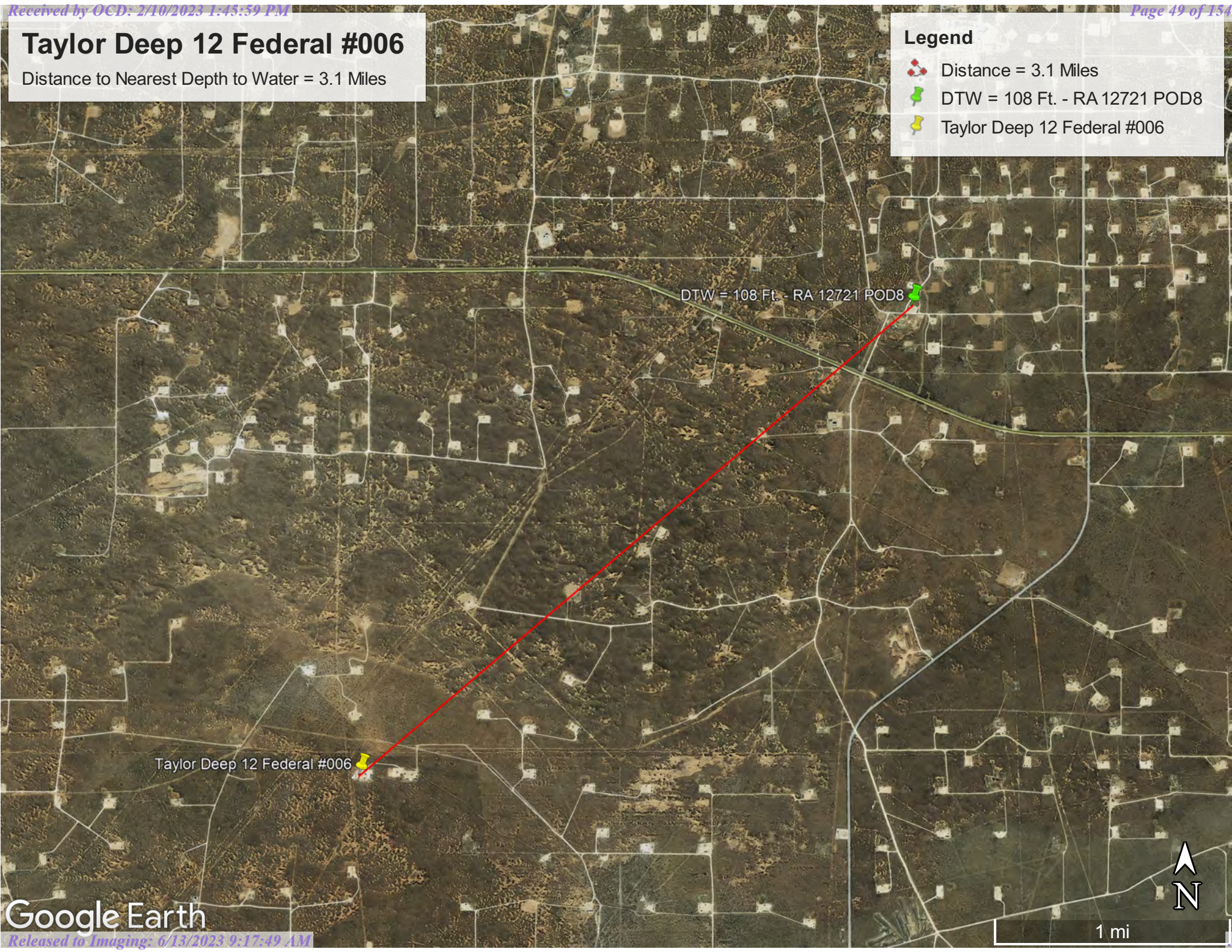
Distance to Nearest Depth to Water = 3.1 Miles

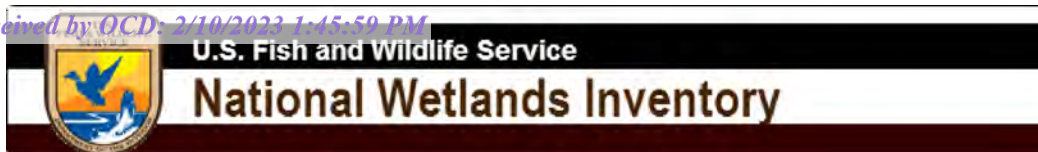
Legend

 Distance = 3.1 Miles

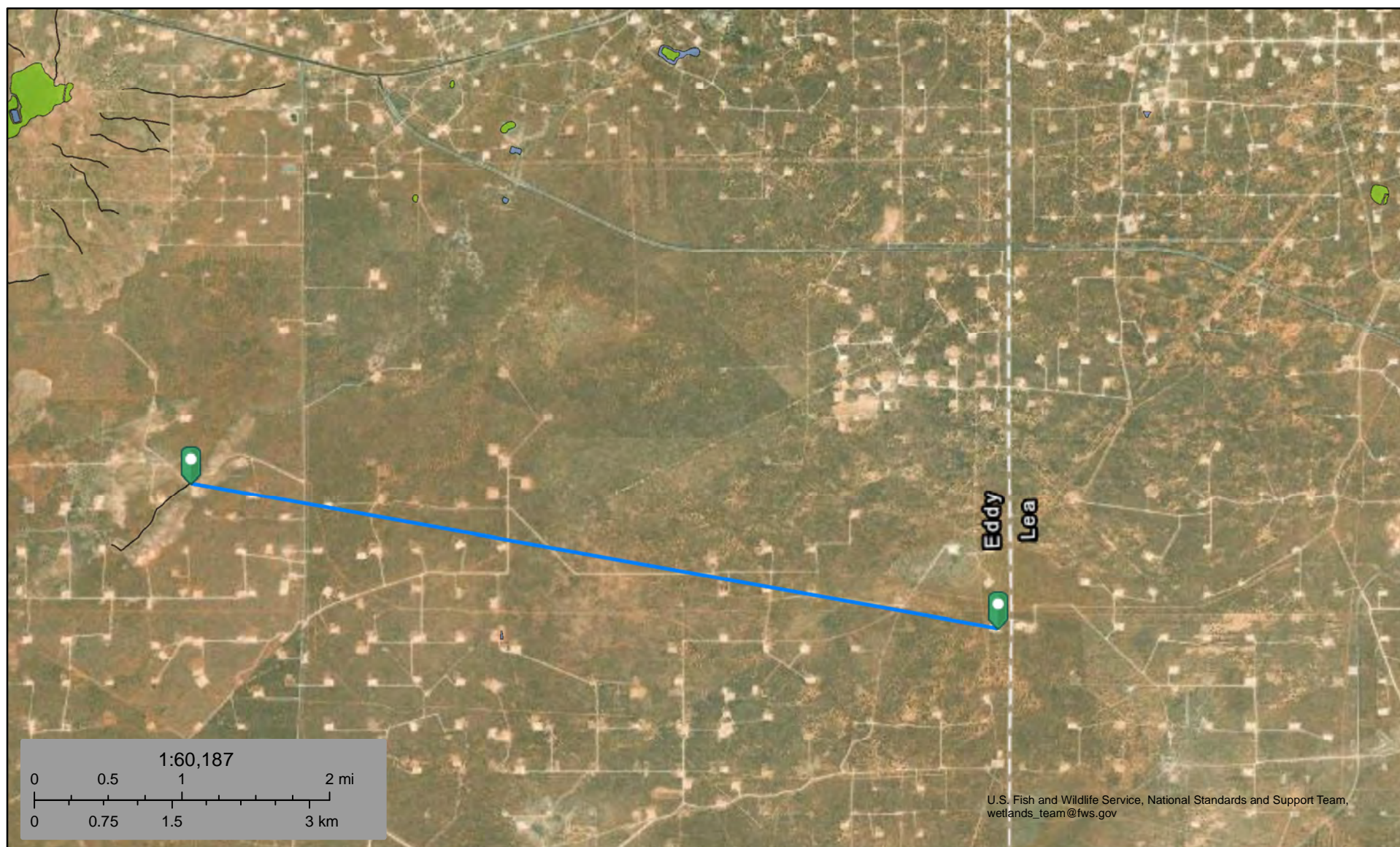
 DTW = 108 Ft. - RA 12721 POD8

 Taylor Deep 12 Federal #006





Taylor Deep 12 Federal #006 - Riverine 4.67 Miles



November 28, 2022

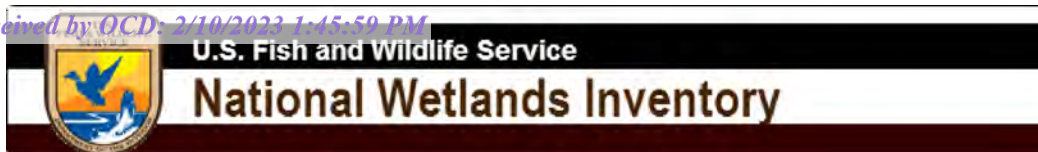
Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

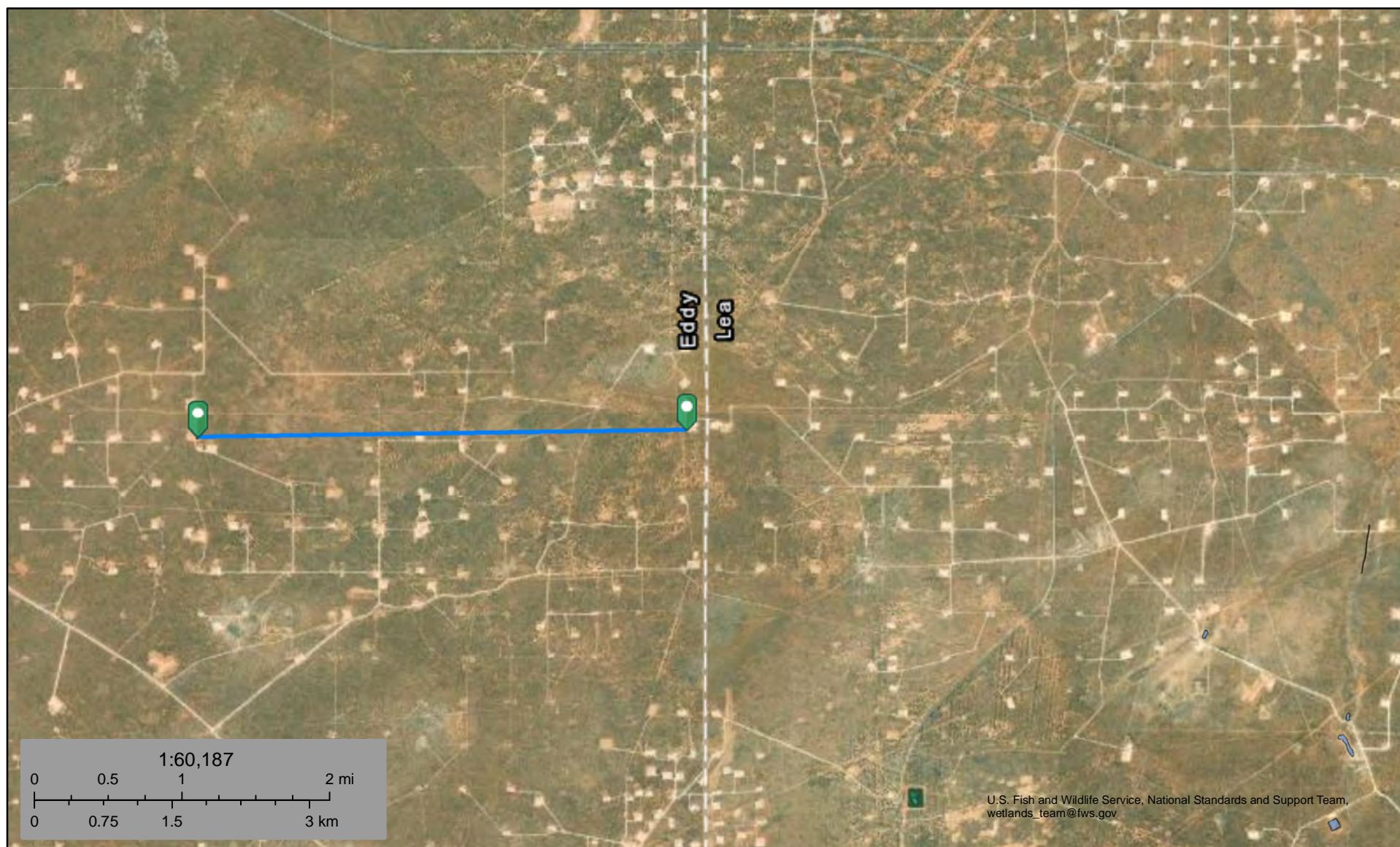
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



Taylor Deep 12 Federal #006 - FW Pond 2.78 Miles



November 28, 2022

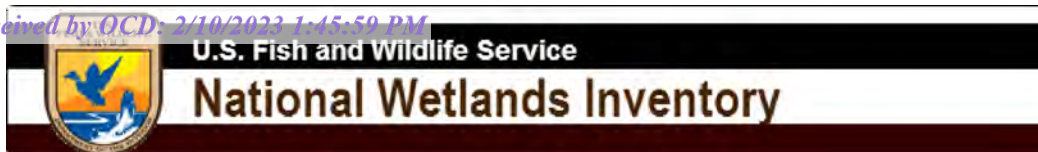
Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



Taylor Deep 12 Federal #006 - Wetland 3.28 Miles



November 28, 2022

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond




- Lake
- Other
- Riverine

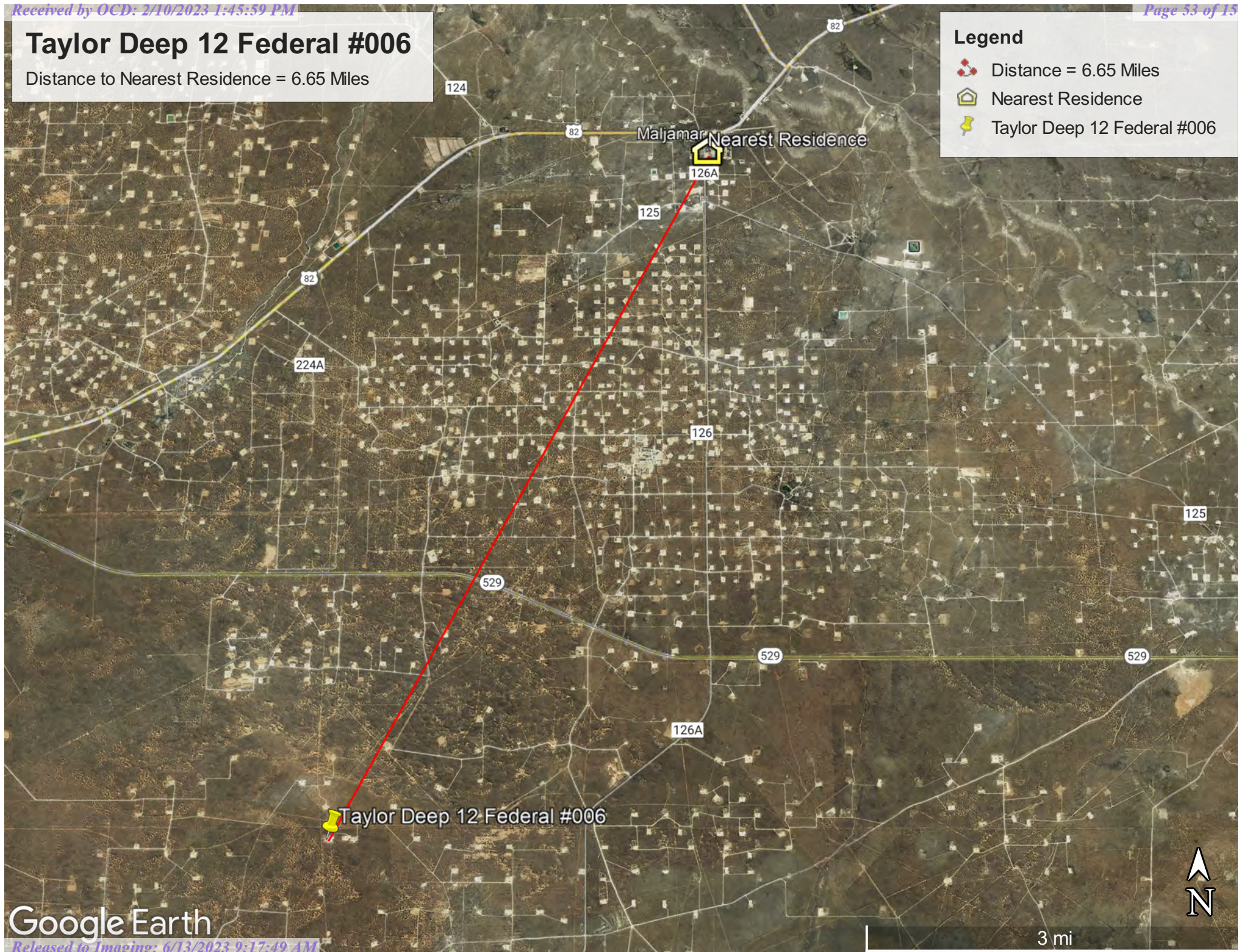
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Taylor Deep 12 Federal #006

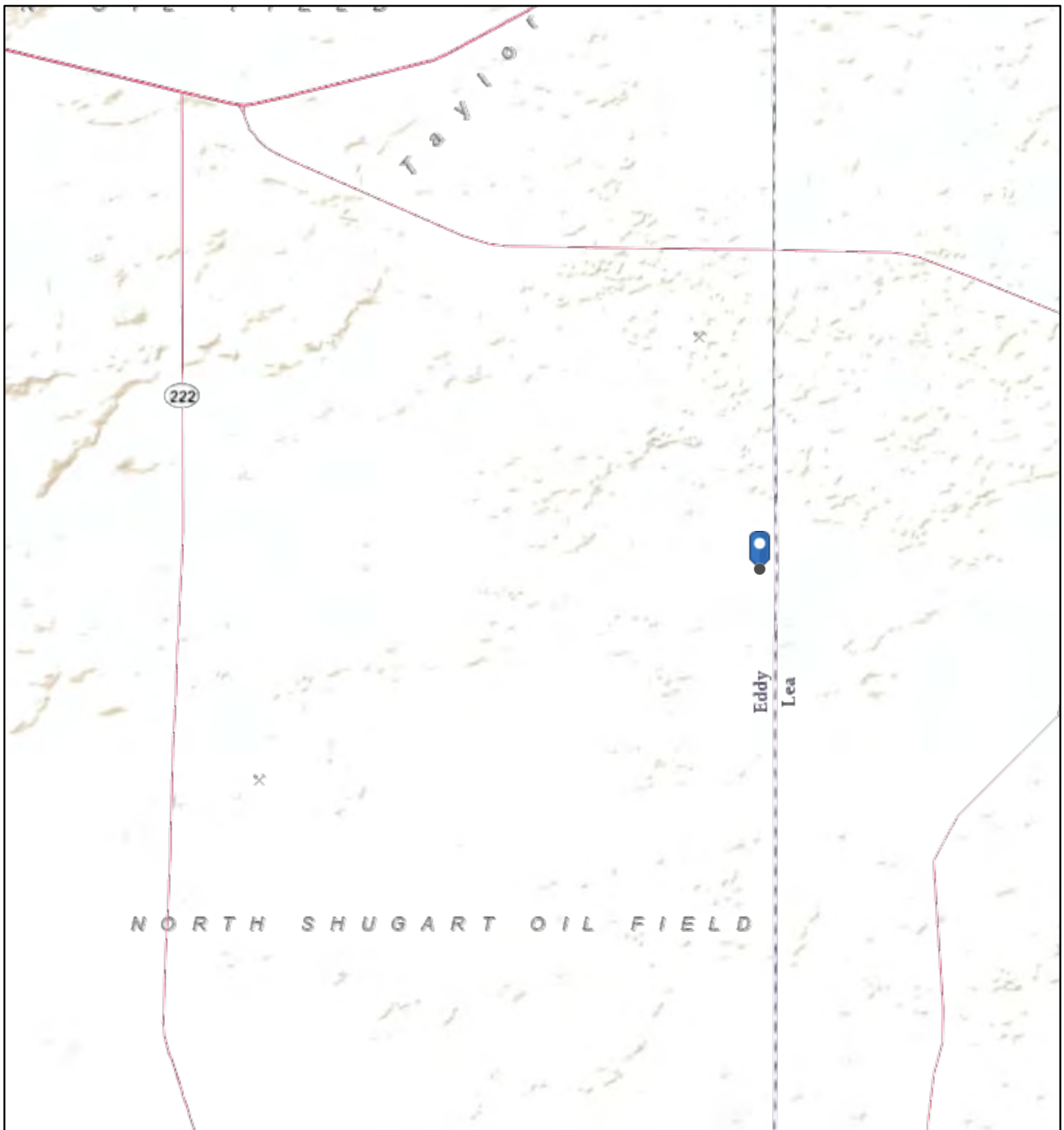
Distance to Nearest Residence = 6.65 Miles

Legend

-  Distance = 6.65 Miles
-  Nearest Residence
-  Taylor Deep 12 Federal #006



Active Mines Taylor Deep 12 Federal #006

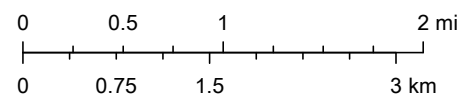


11/28/2022, 8:11:30 AM

1:72,224

Registered Mines

- ✕ Aggregate, Stone etc.
- ✕ Aggregate, Stone etc.



Sources: Esri, USGS, NOAA, Sources: Esri, Garmin, USGS, NPS

National Flood Hazard Layer FIRMette



103°49'17"W 32°46'21"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **11/28/2022 at 10:35 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

0 250 500 1,000 1,500 2,000 Feet

1:6,000

103°48'39"W 32°45'51"N

Released to Imaging: 6/13/2023 9:17:49 AM

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

ATTACHMENT D

Karst Map



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Taylor Deep 12 Federal #006 | Incident ID: nAPP2231924026

Taylor Deep 12 Federal #006

Karst Potential = Low

Legend

- 01 Low
- 02 Medium
- 03 High
- Point of Release
- Taylor Deep 12 Federal #006

Taylor Deep 12 Federal #006



ATTACHMENT E

Hall Environmental Laboratory Analysis Reports



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Taylor Deep 12 Federal #006 | Incident ID: nAPP2231924026



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

December 19, 2022

Ashley Giovengo
Marathon Oil Company
4111 Tidwell Road
Carlsbad, NM 88220
TEL: (575) 297-0956
FAX:

RE: Taylor Deep 12 Federal 006

OrderNo.: 2212216

Dear Ashley Giovengo:

Hall Environmental Analysis Laboratory received 12 sample(s) on 12/6/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2212216

Date Reported: 12/19/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: BG01-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 12/2/2022 2:33:00 PM

Lab ID: 2212216-001

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JME
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/9/2022 12:19:15 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/9/2022 12:19:15 AM
Surr: DNOP	93.3	21-129		%Rec	1	12/9/2022 12:19:15 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/10/2022 2:18:59 PM
Surr: BFB	94.8	37.7-212		%Rec	1	12/10/2022 2:18:59 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/10/2022 2:18:59 PM
Toluene	ND	0.048		mg/Kg	1	12/10/2022 2:18:59 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/10/2022 2:18:59 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/10/2022 2:18:59 PM
Surr: 4-Bromofluorobenzene	95.8	70-130		%Rec	1	12/10/2022 2:18:59 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	12/10/2022 12:29:51 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212216

Date Reported: 12/19/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: BG01-1'

Project: Taylor Deep 12 Federal 006

Collection Date: 12/2/2022 2:35:00 PM

Lab ID: 2212216-002

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/9/2022 3:55:34 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/9/2022 3:55:34 PM
Surr: DNOP	116	21-129		%Rec	1	12/9/2022 3:55:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/10/2022 3:53:07 PM
Surr: BFB	94.1	37.7-212		%Rec	1	12/10/2022 3:53:07 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/10/2022 3:53:07 PM
Toluene	ND	0.049		mg/Kg	1	12/10/2022 3:53:07 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/10/2022 3:53:07 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/10/2022 3:53:07 PM
Surr: 4-Bromofluorobenzene	95.7	70-130		%Rec	1	12/10/2022 3:53:07 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	12/10/2022 12:42:12 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212216

Date Reported: 12/19/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS01-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 12/2/2022 11:41:00 AM

Lab ID: 2212216-003

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/9/2022 4:06:13 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/9/2022 4:06:13 PM
Surr: DNOP	148	21-129	S	%Rec	1	12/9/2022 4:06:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/10/2022 5:03:30 PM
Surr: BFB	94.4	37.7-212		%Rec	1	12/10/2022 5:03:30 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/10/2022 5:03:30 PM
Toluene	ND	0.050		mg/Kg	1	12/10/2022 5:03:30 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/10/2022 5:03:30 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/10/2022 5:03:30 PM
Surr: 4-Bromofluorobenzene	95.2	70-130		%Rec	1	12/10/2022 5:03:30 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	12/10/2022 1:43:54 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212216

Date Reported: 12/19/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS02-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 12/2/2022 11:43:00 AM

Lab ID: 2212216-004

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	12/9/2022 4:16:51 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	12/9/2022 4:16:51 PM
Surr: DNOP	127	21-129		%Rec	1	12/9/2022 4:16:51 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/10/2022 6:14:04 PM
Surr: BFB	91.9	37.7-212		%Rec	1	12/10/2022 6:14:04 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/10/2022 6:14:04 PM
Toluene	ND	0.050		mg/Kg	1	12/10/2022 6:14:04 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/10/2022 6:14:04 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/10/2022 6:14:04 PM
Surr: 4-Bromofluorobenzene	92.9	70-130		%Rec	1	12/10/2022 6:14:04 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	12/10/2022 1:56:14 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212216

Date Reported: 12/19/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS03A-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 12/2/2022 1:34:00 PM

Lab ID: 2212216-005

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/9/2022 4:27:30 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/9/2022 4:27:30 PM
Surr: DNOP	146	21-129	S	%Rec	1	12/9/2022 4:27:30 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/10/2022 6:37:30 PM
Surr: BFB	90.8	37.7-212		%Rec	1	12/10/2022 6:37:30 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/10/2022 6:37:30 PM
Toluene	ND	0.050		mg/Kg	1	12/10/2022 6:37:30 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/10/2022 6:37:30 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/10/2022 6:37:30 PM
Surr: 4-Bromofluorobenzene	92.6	70-130		%Rec	1	12/10/2022 6:37:30 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	12/10/2022 2:08:34 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212216

Date Reported: 12/19/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS04-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 12/2/2022 12:50:00 PM

Lab ID: 2212216-006

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	39	14		mg/Kg	1	12/9/2022 4:38:07 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/9/2022 4:38:07 PM
Surr: DNOP	126	21-129		%Rec	1	12/9/2022 4:38:07 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/10/2022 7:00:58 PM
Surr: BFB	91.5	37.7-212		%Rec	1	12/10/2022 7:00:58 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/10/2022 7:00:58 PM
Toluene	ND	0.049		mg/Kg	1	12/10/2022 7:00:58 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/10/2022 7:00:58 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/10/2022 7:00:58 PM
Surr: 4-Bromofluorobenzene	92.5	70-130		%Rec	1	12/10/2022 7:00:58 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	61		mg/Kg	20	12/10/2022 2:20:55 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212216

Date Reported: 12/19/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS04-1'

Project: Taylor Deep 12 Federal 006

Collection Date: 12/2/2022 12:55:00 PM

Lab ID: 2212216-007

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/9/2022 4:48:43 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/9/2022 4:48:43 PM
Surr: DNOP	121	21-129		%Rec	1	12/9/2022 4:48:43 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/10/2022 7:24:29 PM
Surr: BFB	94.0	37.7-212		%Rec	1	12/10/2022 7:24:29 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/10/2022 7:24:29 PM
Toluene	ND	0.049		mg/Kg	1	12/10/2022 7:24:29 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/10/2022 7:24:29 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/10/2022 7:24:29 PM
Surr: 4-Bromofluorobenzene	95.5	70-130		%Rec	1	12/10/2022 7:24:29 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	12/10/2022 2:33:15 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212216

Date Reported: 12/19/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS05-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 12/2/2022 1:11:00 PM

Lab ID: 2212216-008

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/9/2022 4:59:18 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/9/2022 4:59:18 PM
Surr: DNOP	122	21-129		%Rec	1	12/9/2022 4:59:18 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/10/2022 8:34:52 PM
Surr: BFB	91.2	37.7-212		%Rec	1	12/10/2022 8:34:52 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/10/2022 8:34:52 PM
Toluene	ND	0.049		mg/Kg	1	12/10/2022 8:34:52 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/10/2022 8:34:52 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/10/2022 8:34:52 PM
Surr: 4-Bromofluorobenzene	94.0	70-130		%Rec	1	12/10/2022 8:34:52 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	12/10/2022 2:45:35 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212216

Date Reported: 12/19/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS06-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 12/2/2022 1:13:00 PM

Lab ID: 2212216-009

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/9/2022 5:09:50 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/9/2022 5:09:50 PM
Surr: DNOP	122	21-129		%Rec	1	12/9/2022 5:09:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/10/2022 8:58:19 PM
Surr: BFB	91.2	37.7-212		%Rec	1	12/10/2022 8:58:19 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/10/2022 8:58:19 PM
Toluene	ND	0.048		mg/Kg	1	12/10/2022 8:58:19 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/10/2022 8:58:19 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/10/2022 8:58:19 PM
Surr: 4-Bromofluorobenzene	93.6	70-130		%Rec	1	12/10/2022 8:58:19 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	12/10/2022 2:57:56 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212216

Date Reported: 12/19/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS07-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 12/2/2022 1:47:00 PM

Lab ID: 2212216-010

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/9/2022 5:52:09 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/9/2022 5:52:09 PM
Surr: DNOP	124	21-129		%Rec	1	12/9/2022 5:52:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/10/2022 9:21:46 PM
Surr: BFB	90.6	37.7-212		%Rec	1	12/10/2022 9:21:46 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/10/2022 9:21:46 PM
Toluene	ND	0.048		mg/Kg	1	12/10/2022 9:21:46 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/10/2022 9:21:46 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/10/2022 9:21:46 PM
Surr: 4-Bromofluorobenzene	92.4	70-130		%Rec	1	12/10/2022 9:21:46 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	12/10/2022 3:10:16 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2212216

Date Reported: 12/19/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS08-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 12/2/2022 2:43:00 PM

Lab ID: 2212216-011

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: SB
Diesel Range Organics (DRO)	21000	1400		mg/Kg	100	12/15/2022 10:30:18 AM
Motor Oil Range Organics (MRO)	7200	4600		mg/Kg	100	12/15/2022 10:30:18 AM
Surr: DNOP	0	21-129	S	%Rec	100	12/15/2022 10:30:18 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	1700	24		mg/Kg	5	12/10/2022 9:45:10 PM
Surr: BFB	2320	37.7-212	S	%Rec	5	12/10/2022 9:45:10 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	0.39	0.12		mg/Kg	5	12/10/2022 9:45:10 PM
Toluene	51	2.4		mg/Kg	50	12/11/2022 3:17:58 PM
Ethylbenzene	91	2.4		mg/Kg	50	12/11/2022 3:17:58 PM
Xylenes, Total	120	4.9		mg/Kg	50	12/11/2022 3:17:58 PM
Surr: 4-Bromofluorobenzene	144	70-130	S	%Rec	50	12/11/2022 3:17:58 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	130	61		mg/Kg	20	12/10/2022 3:47:17 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2212216

Date Reported: 12/19/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS08-1'

Project: Taylor Deep 12 Federal 006

Collection Date: 12/2/2022 2:46:00 PM

Lab ID: 2212216-012

Matrix: SOIL

Received Date: 12/6/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/9/2022 6:13:04 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/9/2022 6:13:04 PM
Surr: DNOP	111	21-129		%Rec	1	12/9/2022 6:13:04 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/11/2022 3:41:38 PM
Surr: BFB	94.1	37.7-212		%Rec	1	12/11/2022 3:41:38 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/11/2022 3:41:38 PM
Toluene	ND	0.049		mg/Kg	1	12/11/2022 3:41:38 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/11/2022 3:41:38 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/11/2022 3:41:38 PM
Surr: 4-Bromofluorobenzene	92.0	70-130		%Rec	1	12/11/2022 3:41:38 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	100	60		mg/Kg	20	12/10/2022 3:59:37 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 2212216
19-Dec-22

Client: Marathon Oil Company
Project: Taylor Deep 12 Federal 006

Sample ID: MB-72006	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 72006	RunNo: 93192								
Prep Date: 12/9/2022	Analysis Date: 12/10/2022	SeqNo: 3358070 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-72006	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 72006	RunNo: 93192								
Prep Date: 12/9/2022	Analysis Date: 12/10/2022	SeqNo: 3358071 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.8	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
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 standard limits. If undiluted results may be estimated.	

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

WO#: 2212216

19-Dec-22

Client: Marathon Oil Company
Project: Taylor Deep 12 Federal 006

Sample ID: MB-71925	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 71925	RunNo: 93133								
Prep Date: 12/7/2022	Analysis Date: 12/8/2022	SeqNo: 3354846 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		119	21	129			

Sample ID: LCS-71925	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 71925	RunNo: 93133								
Prep Date: 12/7/2022	Analysis Date: 12/8/2022	SeqNo: 3354847 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	15	50.00	0	118	64.4	127			
Surr: DNOP	5.5		5.000		111	21	129			

Sample ID: LCS-71938	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 71938	RunNo: 93160								
Prep Date: 12/8/2022	Analysis Date: 12/9/2022	SeqNo: 3358506 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	15	50.00	0	98.0	64.4	127			
Surr: DNOP	6.3		5.000		126	21	129			

Sample ID: MB-71938	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 71938	RunNo: 93160								
Prep Date: 12/8/2022	Analysis Date: 12/9/2022	SeqNo: 3358507 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		124	21	129			

Sample ID: MB-71989	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 71989	RunNo: 93210								
Prep Date: 12/9/2022	Analysis Date: 12/12/2022	SeqNo: 3361735 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		108	21	129			

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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2212216
19-Dec-22

Client: Marathon Oil Company
Project: Taylor Deep 12 Federal 006

Sample ID: LCS-71989	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 71989	RunNo: 93210								
Prep Date: 12/9/2022	Analysis Date: 12/12/2022	SeqNo: 3361736			Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		101	21	129			

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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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

WO#: 2212216

19-Dec-22

Client: Marathon Oil Company
Project: Taylor Deep 12 Federal 006

Sample ID: mb-71918	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 71918	RunNo: 93146								
Prep Date: 12/7/2022	Analysis Date: 12/10/2022	SeqNo: 3357250 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	940		1000		93.5	37.7	212			

Sample ID: lcs-71918	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 71918	RunNo: 93146								
Prep Date: 12/7/2022	Analysis Date: 12/10/2022	SeqNo: 3357251 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	96.5	72.3	137			
Surr: BFB	1900		1000		188	37.7	212			

Sample ID: mb-71927	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 71927	RunNo: 93146								
Prep Date: 12/7/2022	Analysis Date: 12/10/2022	SeqNo: 3357274 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	910		1000		91.4	37.7	212			

Sample ID: lcs-71927	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 71927	RunNo: 93146								
Prep Date: 12/7/2022	Analysis Date: 12/10/2022	SeqNo: 3357275 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	93.8	72.3	137			
Surr: BFB	1900		1000		190	37.7	212			

Sample ID: 2212216-002ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: BG01-1'	Batch ID: 71927	RunNo: 93146								
Prep Date: 12/7/2022	Analysis Date: 12/10/2022	SeqNo: 3357277 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.39	0	94.4	70	130			
Surr: BFB	1900		975.6		190	37.7	212			

Sample ID: 2212216-002amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: BG01-1'	Batch ID: 71927	RunNo: 93146								
Prep Date: 12/7/2022	Analysis Date: 12/10/2022	SeqNo: 3357278 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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2212216

19-Dec-22

Client: Marathon Oil Company
Project: Taylor Deep 12 Federal 006

Sample ID: 2212216-002amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: BG01-1'	Batch ID: 71927	RunNo: 93146								
Prep Date: 12/7/2022	Analysis Date: 12/10/2022	SeqNo: 3357278 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.37	0	92.8	70	130	1.72	20	
Surr: BFB	1900		974.7		194	37.7	212	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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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

WO#: 2212216

19-Dec-22

Client: Marathon Oil Company**Project:** Taylor Deep 12 Federal 006

Sample ID: mb-71918	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 71918	RunNo: 93146								
Prep Date: 12/7/2022	Analysis Date: 12/10/2022	SeqNo: 3357332 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	0.96		1.000		96.3	70	130			

Sample ID: LCS-71918	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 71918	RunNo: 93146								
Prep Date: 12/7/2022	Analysis Date: 12/10/2022	SeqNo: 3357333 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	1.000	0	86.3	80	120			
Toluene	0.87	0.050	1.000	0	87.3	80	120			
Ethylbenzene	0.87	0.050	1.000	0	86.6	80	120			
Xylenes, Total	2.6	0.10	3.000	0	86.8	80	120			
Surr: 4-Bromofluorobenzene	0.94		1.000		94.3	70	130			

Sample ID: mb-71927	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 71927	RunNo: 93146								
Prep Date: 12/7/2022	Analysis Date: 12/10/2022	SeqNo: 3357356 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	0.93		1.000		92.7	70	130			

Sample ID: LCS-71927	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 71927	RunNo: 93146								
Prep Date: 12/7/2022	Analysis Date: 12/10/2022	SeqNo: 3357357 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.2	80	120			
Toluene	0.93	0.050	1.000	0	93.5	80	120			
Ethylbenzene	0.92	0.050	1.000	0	92.0	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.1	80	120			
Surr: 4-Bromofluorobenzene	0.93		1.000		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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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

WO#: 2212216

19-Dec-22

Client: Marathon Oil Company
Project: Taylor Deep 12 Federal 006

Sample ID: 2212216-003ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: SS01-0'	Batch ID: 71927	RunNo: 93146								
Prep Date: 12/7/2022	Analysis Date: 12/10/2022	SeqNo: 3357360	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	0.9921	0	91.8	68.8	120			
Toluene	0.93	0.050	0.9921	0	93.6	73.6	124			
Ethylbenzene	0.93	0.050	0.9921	0	93.8	72.7	129			
Xylenes, Total	2.8	0.099	2.976	0.01936	93.3	75.7	126			
Surr: 4-Bromofluorobenzene	0.93		0.9921		93.4	70	130			

Sample ID: 2212216-003amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: SS01-0'	Batch ID: 71927	RunNo: 93146								
Prep Date: 12/7/2022	Analysis Date: 12/10/2022	SeqNo: 3357361	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	0.9921	0	93.5	68.8	120	1.93	20	
Toluene	0.95	0.050	0.9921	0	95.5	73.6	124	1.96	20	
Ethylbenzene	0.94	0.050	0.9921	0	94.9	72.7	129	1.18	20	
Xylenes, Total	2.8	0.099	2.976	0.01936	94.4	75.7	126	1.17	20	
Surr: 4-Bromofluorobenzene	0.96		0.9921		96.8	70	130	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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
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: **Marathon Oil Company**

Work Order Number: **2212216**

RcptNo: **1**

Received By: **Juan Rojas**

12/6/2022 7:30:00 AM

Completed By: **Sean Livingston**

12/6/2022 8:33:53 AM

Reviewed By:

KPC 12-06-22

[Signature]

[Signature]

Chain of Custody

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

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: *[Signature]* 12-6-22

Special Handling (if applicable)

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

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.2	Good				



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

January 25, 2023

Ashley Giovengo
Marathon Oil Company
4111 Tidwell Road
Carlsbad, NM 88220
TEL: (575) 297-0956
FAX:

RE: Taylor Deep 12 Federal 006

OrderNo.: 2301576

Dear Ashley Giovengo:

Hall Environmental Analysis Laboratory received 45 sample(s) on 1/17/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF01-1.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/12/2023 11:24:00 AM

Lab ID: 2301576-001

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	1/20/2023 1:32:09 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/20/2023 1:32:09 AM
Surr: DNOP	103	69-147		%Rec	1	1/20/2023 1:32:09 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/19/2023 12:43:00 AM
Surr: BFB	93.7	37.7-212		%Rec	1	1/19/2023 12:43:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/19/2023 12:43:00 AM
Toluene	ND	0.047		mg/Kg	1	1/19/2023 12:43:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	1/19/2023 12:43:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	1/19/2023 12:43:00 AM
Surr: 4-Bromofluorobenzene	92.6	70-130		%Rec	1	1/19/2023 12:43:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 1:54:07 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF02-1.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/12/2023 11:27:00 AM

Lab ID: 2301576-002

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	1/20/2023 1:42:28 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/20/2023 1:42:28 AM
Surr: DNOP	103	69-147		%Rec	1	1/20/2023 1:42:28 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/19/2023 1:03:00 AM
Surr: BFB	91.6	37.7-212		%Rec	1	1/19/2023 1:03:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/19/2023 1:03:00 AM
Toluene	ND	0.048		mg/Kg	1	1/19/2023 1:03:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	1/19/2023 1:03:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	1/19/2023 1:03:00 AM
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	1	1/19/2023 1:03:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 2:06:27 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF03-1.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/12/2023 11:28:00 AM

Lab ID: 2301576-003

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	1/20/2023 1:52:47 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/20/2023 1:52:47 AM
Surr: DNOP	93.5	69-147		%Rec	1	1/20/2023 1:52:47 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/19/2023 1:22:00 AM
Surr: BFB	92.9	37.7-212		%Rec	1	1/19/2023 1:22:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/19/2023 1:22:00 AM
Toluene	ND	0.048		mg/Kg	1	1/19/2023 1:22:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	1/19/2023 1:22:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	1/19/2023 1:22:00 AM
Surr: 4-Bromofluorobenzene	95.2	70-130		%Rec	1	1/19/2023 1:22:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 2:18:47 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF04-1.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/12/2023 11:36:00 AM

Lab ID: 2301576-004

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	13	9.6		mg/Kg	1	1/20/2023 2:03:03 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/20/2023 2:03:03 AM
Surr: DNOP	115	69-147		%Rec	1	1/20/2023 2:03:03 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/19/2023 2:01:00 AM
Surr: BFB	95.2	37.7-212		%Rec	1	1/19/2023 2:01:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/19/2023 2:01:00 AM
Toluene	ND	0.050		mg/Kg	1	1/19/2023 2:01:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/19/2023 2:01:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/19/2023 2:01:00 AM
Surr: 4-Bromofluorobenzene	91.9	70-130		%Rec	1	1/19/2023 2:01:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 2:31:07 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF05-1.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/12/2023 11:38:00 AM

Lab ID: 2301576-005

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	1/20/2023 2:13:19 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/20/2023 2:13:19 AM
Surr: DNOP	117	69-147		%Rec	1	1/20/2023 2:13:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/19/2023 2:21:00 AM
Surr: BFB	86.4	37.7-212		%Rec	1	1/19/2023 2:21:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/19/2023 2:21:00 AM
Toluene	ND	0.049		mg/Kg	1	1/19/2023 2:21:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	1/19/2023 2:21:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	1/19/2023 2:21:00 AM
Surr: 4-Bromofluorobenzene	89.9	70-130		%Rec	1	1/19/2023 2:21:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 2:43:28 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF06-1.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/12/2023 11:39:00 AM

Lab ID: 2301576-006

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	13	9.0		mg/Kg	1	1/20/2023 2:23:34 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	1/20/2023 2:23:34 AM
Surr: DNOP	99.7	69-147		%Rec	1	1/20/2023 2:23:34 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/19/2023 2:40:00 AM
Surr: BFB	90.2	37.7-212		%Rec	1	1/19/2023 2:40:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/19/2023 2:40:00 AM
Toluene	ND	0.049		mg/Kg	1	1/19/2023 2:40:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	1/19/2023 2:40:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	1/19/2023 2:40:00 AM
Surr: 4-Bromofluorobenzene	89.5	70-130		%Rec	1	1/19/2023 2:40:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	59		mg/Kg	20	1/19/2023 2:55:49 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF07-1.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/12/2023 11:45:00 AM

Lab ID: 2301576-007

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/20/2023 2:44:04 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/20/2023 2:44:04 AM
Surr: DNOP	95.4	69-147		%Rec	1	1/20/2023 2:44:04 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/19/2023 2:59:00 AM
Surr: BFB	90.3	37.7-212		%Rec	1	1/19/2023 2:59:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/19/2023 2:59:00 AM
Toluene	ND	0.050		mg/Kg	1	1/19/2023 2:59:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/19/2023 2:59:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/19/2023 2:59:00 AM
Surr: 4-Bromofluorobenzene	93.0	70-130		%Rec	1	1/19/2023 2:59:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 3:32:52 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF09-1.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/12/2023 11:50:00 AM

Lab ID: 2301576-008

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/20/2023 2:54:24 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/20/2023 2:54:24 AM
Surr: DNOP	102	69-147		%Rec	1	1/20/2023 2:54:24 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/19/2023 3:19:00 AM
Surr: BFB	91.7	37.7-212		%Rec	1	1/19/2023 3:19:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	1/19/2023 3:19:00 AM
Toluene	ND	0.046		mg/Kg	1	1/19/2023 3:19:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	1/19/2023 3:19:00 AM
Xylenes, Total	ND	0.091		mg/Kg	1	1/19/2023 3:19:00 AM
Surr: 4-Bromofluorobenzene	92.3	70-130		%Rec	1	1/19/2023 3:19:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 4:34:32 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF10-1.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/12/2023 11:55:00 AM

Lab ID: 2301576-009

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	1/20/2023 3:04:46 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/20/2023 3:04:46 AM
Surr: DNOP	101	69-147		%Rec	1	1/20/2023 3:04:46 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/19/2023 3:38:00 AM
Surr: BFB	88.1	37.7-212		%Rec	1	1/19/2023 3:38:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	1/19/2023 3:38:00 AM
Toluene	ND	0.046		mg/Kg	1	1/19/2023 3:38:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	1/19/2023 3:38:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	1/19/2023 3:38:00 AM
Surr: 4-Bromofluorobenzene	90.5	70-130		%Rec	1	1/19/2023 3:38:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	59		mg/Kg	20	1/19/2023 5:11:33 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF11Wall-0.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/12/2023 1:25:00 PM

Lab ID: 2301576-010

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	1/20/2023 3:15:08 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	1/20/2023 3:15:08 AM
Surr: DNOP	97.0	69-147		%Rec	1	1/20/2023 3:15:08 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/19/2023 3:58:00 AM
Surr: BFB	89.2	37.7-212		%Rec	1	1/19/2023 3:58:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/19/2023 3:58:00 AM
Toluene	ND	0.048		mg/Kg	1	1/19/2023 3:58:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	1/19/2023 3:58:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	1/19/2023 3:58:00 AM
Surr: 4-Bromofluorobenzene	92.3	70-130		%Rec	1	1/19/2023 3:58:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 5:23:54 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF12Wall-0.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/12/2023 1:27:00 PM

Lab ID: 2301576-011

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	1/20/2023 3:25:30 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/20/2023 3:25:30 AM
Surr: DNOP	105	69-147		%Rec	1	1/20/2023 3:25:30 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/19/2023 4:17:00 AM
Surr: BFB	89.2	37.7-212		%Rec	1	1/19/2023 4:17:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/19/2023 4:17:00 AM
Toluene	ND	0.048		mg/Kg	1	1/19/2023 4:17:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	1/19/2023 4:17:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	1/19/2023 4:17:00 AM
Surr: 4-Bromofluorobenzene	91.5	70-130		%Rec	1	1/19/2023 4:17:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	59		mg/Kg	20	1/19/2023 5:36:14 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF13Wall-0.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/12/2023 1:33:00 PM

Lab ID: 2301576-012

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/20/2023 3:35:53 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/20/2023 3:35:53 AM
Surr: DNOP	98.5	69-147		%Rec	1	1/20/2023 3:35:53 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/19/2023 4:36:00 AM
Surr: BFB	92.7	37.7-212		%Rec	1	1/19/2023 4:36:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	1/19/2023 4:36:00 AM
Toluene	ND	0.047		mg/Kg	1	1/19/2023 4:36:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	1/19/2023 4:36:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	1/19/2023 4:36:00 AM
Surr: 4-Bromofluorobenzene	93.0	70-130		%Rec	1	1/19/2023 4:36:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 5:48:35 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF14Wall-0.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/12/2023 1:35:00 PM

Lab ID: 2301576-013

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	1/20/2023 3:46:16 AM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	1/20/2023 3:46:16 AM
Surr: DNOP	107	69-147		%Rec	1	1/20/2023 3:46:16 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/19/2023 4:56:00 AM
Surr: BFB	89.6	37.7-212		%Rec	1	1/19/2023 4:56:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/19/2023 4:56:00 AM
Toluene	ND	0.049		mg/Kg	1	1/19/2023 4:56:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	1/19/2023 4:56:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	1/19/2023 4:56:00 AM
Surr: 4-Bromofluorobenzene	92.0	70-130		%Rec	1	1/19/2023 4:56:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 6:00:55 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF15-0.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 9:40:00 AM

Lab ID: 2301576-014

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/20/2023 3:56:44 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/20/2023 3:56:44 AM
Surr: DNOP	119	69-147		%Rec	1	1/20/2023 3:56:44 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/22/2023 8:27:00 PM
Surr: BFB	94.1	37.7-212		%Rec	1	1/22/2023 8:27:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/19/2023 8:23:00 PM
Toluene	ND	0.050		mg/Kg	1	1/19/2023 8:23:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	1/19/2023 8:23:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	1/19/2023 8:23:00 PM
Surr: 4-Bromofluorobenzene	95.5	70-130		%Rec	1	1/19/2023 8:23:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 6:37:58 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF16-0.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 9:42:00 AM

Lab ID: 2301576-015

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/20/2023 4:07:12 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/20/2023 4:07:12 AM
Surr: DNOP	105	69-147		%Rec	1	1/20/2023 4:07:12 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/22/2023 9:26:00 PM
Surr: BFB	96.3	37.7-212		%Rec	1	1/22/2023 9:26:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/19/2023 9:22:00 PM
Toluene	ND	0.049		mg/Kg	1	1/19/2023 9:22:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	1/19/2023 9:22:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	1/19/2023 9:22:00 PM
Surr: 4-Bromofluorobenzene	93.0	70-130		%Rec	1	1/19/2023 9:22:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 6:50:18 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF17-0.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 9:45:00 AM

Lab ID: 2301576-016

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/20/2023 4:17:42 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/20/2023 4:17:42 AM
Surr: DNOP	126	69-147		%Rec	1	1/20/2023 4:17:42 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/22/2023 9:46:00 PM
Surr: BFB	93.9	37.7-212		%Rec	1	1/22/2023 9:46:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/19/2023 10:20:00 PM
Toluene	ND	0.048		mg/Kg	1	1/19/2023 10:20:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	1/19/2023 10:20:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	1/19/2023 10:20:00 PM
Surr: 4-Bromofluorobenzene	92.5	70-130		%Rec	1	1/19/2023 10:20:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 7:02:38 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF18-0.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 9:52:00 AM

Lab ID: 2301576-017

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	1/20/2023 4:28:13 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	1/20/2023 4:28:13 AM
Surr: DNOP	107	69-147		%Rec	1	1/20/2023 4:28:13 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/22/2023 10:05:00 PM
Surr: BFB	89.4	37.7-212		%Rec	1	1/22/2023 10:05:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/19/2023 10:40:00 PM
Toluene	ND	0.050		mg/Kg	1	1/19/2023 10:40:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	1/19/2023 10:40:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	1/19/2023 10:40:00 PM
Surr: 4-Bromofluorobenzene	91.5	70-130		%Rec	1	1/19/2023 10:40:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 7:14:59 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF19-0.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 9:54:00 AM

Lab ID: 2301576-018

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/20/2023 4:38:45 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/20/2023 4:38:45 AM
Surr: DNOP	107	69-147		%Rec	1	1/20/2023 4:38:45 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/22/2023 10:25:00 PM
Surr: BFB	90.3	37.7-212		%Rec	1	1/22/2023 10:25:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/19/2023 10:59:00 PM
Toluene	ND	0.048		mg/Kg	1	1/19/2023 10:59:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	1/19/2023 10:59:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	1/19/2023 10:59:00 PM
Surr: 4-Bromofluorobenzene	91.6	70-130		%Rec	1	1/19/2023 10:59:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 7:27:19 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF20-0.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 9:56:00 AM

Lab ID: 2301576-019

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	9.3	8.8		mg/Kg	1	1/20/2023 4:59:42 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	1/20/2023 4:59:42 AM
Surr: DNOP	117	69-147		%Rec	1	1/20/2023 4:59:42 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/22/2023 10:45:00 PM
Surr: BFB	91.1	37.7-212		%Rec	1	1/22/2023 10:45:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/19/2023 11:19:00 PM
Toluene	ND	0.049		mg/Kg	1	1/19/2023 11:19:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	1/19/2023 11:19:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	1/19/2023 11:19:00 PM
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	1/19/2023 11:19:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 7:39:41 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF21-1'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 2:01:00 PM

Lab ID: 2301576-020

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	1/20/2023 5:10:16 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/20/2023 5:10:16 AM
Surr: DNOP	120	69-147		%Rec	1	1/20/2023 5:10:16 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/22/2023 11:04:00 PM
Surr: BFB	87.8	37.7-212		%Rec	1	1/22/2023 11:04:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/19/2023 11:38:00 PM
Toluene	ND	0.049		mg/Kg	1	1/19/2023 11:38:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	1/19/2023 11:38:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	1/19/2023 11:38:00 PM
Surr: 4-Bromofluorobenzene	92.9	70-130		%Rec	1	1/19/2023 11:38:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 7:52:02 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF22Wall-0.5'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 2:55:00 PM

Lab ID: 2301576-021

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/20/2023 5:20:55 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/20/2023 5:20:55 AM
Surr: DNOP	115	69-147		%Rec	1	1/20/2023 5:20:55 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/22/2023 11:24:00 PM
Surr: BFB	88.2	37.7-212		%Rec	1	1/22/2023 11:24:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/19/2023 11:58:00 PM
Toluene	ND	0.050		mg/Kg	1	1/19/2023 11:58:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	1/19/2023 11:58:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	1/19/2023 11:58:00 PM
Surr: 4-Bromofluorobenzene	91.4	70-130		%Rec	1	1/19/2023 11:58:00 PM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 8:04:22 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF23Wall-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 1:58:00 PM

Lab ID: 2301576-022

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/20/2023 5:31:33 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/20/2023 5:31:33 AM
Surr: DNOP	109	69-147		%Rec	1	1/20/2023 5:31:33 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/22/2023 11:43:00 PM
Surr: BFB	87.1	37.7-212		%Rec	1	1/22/2023 11:43:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/20/2023 12:17:00 AM
Toluene	ND	0.048		mg/Kg	1	1/20/2023 12:17:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	1/20/2023 12:17:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	1/20/2023 12:17:00 AM
Surr: 4-Bromofluorobenzene	92.5	70-130		%Rec	1	1/20/2023 12:17:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 8:16:42 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: CONF08-2'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 10:03:00 AM

Lab ID: 2301576-023

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/20/2023 5:42:23 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/20/2023 5:42:23 AM
Surr: DNOP	106	69-147		%Rec	1	1/20/2023 5:42:23 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/23/2023 12:03:00 AM
Surr: BFB	85.9	37.7-212		%Rec	1	1/23/2023 12:03:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/20/2023 12:37:00 AM
Toluene	ND	0.049		mg/Kg	1	1/20/2023 12:37:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	1/20/2023 12:37:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	1/20/2023 12:37:00 AM
Surr: 4-Bromofluorobenzene	94.4	70-130		%Rec	1	1/20/2023 12:37:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	130	60		mg/Kg	20	1/19/2023 8:29:03 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS09-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 10:27:00 AM

Lab ID: 2301576-024

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/20/2023 5:53:10 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/20/2023 5:53:10 AM
Surr: DNOP	105	69-147		%Rec	1	1/20/2023 5:53:10 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/23/2023 12:22:00 AM
Surr: BFB	83.8	37.7-212		%Rec	1	1/23/2023 12:22:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/20/2023 1:15:00 AM
Toluene	ND	0.049		mg/Kg	1	1/20/2023 1:15:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	1/20/2023 1:15:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	1/20/2023 1:15:00 AM
Surr: 4-Bromofluorobenzene	91.8	70-130		%Rec	1	1/20/2023 1:15:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/19/2023 7:12:01 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS09-1'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 10:33:00 AM

Lab ID: 2301576-025

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	1/20/2023 6:03:58 AM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	1/20/2023 6:03:58 AM
Surr: DNOP	113	69-147		%Rec	1	1/20/2023 6:03:58 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/23/2023 12:42:00 AM
Surr: BFB	90.3	37.7-212		%Rec	1	1/23/2023 12:42:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/20/2023 1:35:00 AM
Toluene	ND	0.050		mg/Kg	1	1/20/2023 1:35:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/20/2023 1:35:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/20/2023 1:35:00 AM
Surr: 4-Bromofluorobenzene	92.1	70-130		%Rec	1	1/20/2023 1:35:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 9:18:26 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS10-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 10:35:00 AM

Lab ID: 2301576-026

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	2900	200		mg/Kg	20	1/19/2023 2:36:26 PM
Motor Oil Range Organics (MRO)	2700	1000		mg/Kg	20	1/19/2023 2:36:26 PM
Surr: DNOP	0	69-147	S	%Rec	20	1/19/2023 2:36:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	7.9	4.9		mg/Kg	1	1/23/2023 1:01:00 AM
Surr: BFB	90.6	37.7-212		%Rec	1	1/23/2023 1:01:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/20/2023 1:54:00 AM
Toluene	2.9	0.049		mg/Kg	1	1/20/2023 1:54:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	1/20/2023 1:54:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	1/20/2023 1:54:00 AM
Surr: 4-Bromofluorobenzene	92.3	70-130		%Rec	1	1/20/2023 1:54:00 AM
EPA METHOD 300.0: ANIONS						Analyst: NAI
Chloride	ND	60		mg/Kg	20	1/19/2023 9:30:47 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS10-1'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 10:42:00 AM

Lab ID: 2301576-027

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	1/20/2023 6:14:42 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	1/20/2023 6:14:42 AM
Surr: DNOP	126	69-147		%Rec	1	1/20/2023 6:14:42 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/23/2023 1:21:00 AM
Surr: BFB	86.9	37.7-212		%Rec	1	1/23/2023 1:21:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/20/2023 2:14:00 AM
Toluene	ND	0.050		mg/Kg	1	1/20/2023 2:14:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/20/2023 2:14:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	1/20/2023 2:14:00 AM
Surr: 4-Bromofluorobenzene	90.0	70-130		%Rec	1	1/20/2023 2:14:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/19/2023 10:04:50 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS11-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 10:44:00 AM

Lab ID: 2301576-028

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	2900	190		mg/Kg	20	1/19/2023 3:22:06 PM
Motor Oil Range Organics (MRO)	2800	940		mg/Kg	20	1/19/2023 3:22:06 PM
Surr: DNOP	0	69-147	S	%Rec	20	1/19/2023 3:22:06 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/23/2023 1:40:00 AM
Surr: BFB	89.9	37.7-212		%Rec	1	1/23/2023 1:40:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/20/2023 2:33:00 AM
Toluene	1.2	0.050		mg/Kg	1	1/20/2023 2:33:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/20/2023 2:33:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/20/2023 2:33:00 AM
Surr: 4-Bromofluorobenzene	88.7	70-130		%Rec	1	1/20/2023 2:33:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	61		mg/Kg	20	1/19/2023 10:41:52 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS11-1'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 10:49:00 AM

Lab ID: 2301576-029

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/20/2023 6:25:26 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/20/2023 6:25:26 AM
Surr: DNOP	106	69-147		%Rec	1	1/20/2023 6:25:26 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/23/2023 2:00:00 AM
Surr: BFB	87.0	37.7-212		%Rec	1	1/23/2023 2:00:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/20/2023 2:53:00 AM
Toluene	ND	0.049		mg/Kg	1	1/20/2023 2:53:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	1/20/2023 2:53:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	1/20/2023 2:53:00 AM
Surr: 4-Bromofluorobenzene	90.1	70-130		%Rec	1	1/20/2023 2:53:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/19/2023 10:54:12 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS12-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 11:02:00 AM

Lab ID: 2301576-030

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	1600	95		mg/Kg	10	1/19/2023 4:04:29 PM
Motor Oil Range Organics (MRO)	1200	470		mg/Kg	10	1/19/2023 4:04:29 PM
Surr: DNOP	0	69-147	S	%Rec	10	1/19/2023 4:04:29 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/23/2023 2:19:00 AM
Surr: BFB	85.7	37.7-212		%Rec	1	1/23/2023 2:19:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/20/2023 3:12:00 AM
Toluene	ND	0.049		mg/Kg	1	1/20/2023 3:12:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	1/20/2023 3:12:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	1/20/2023 3:12:00 AM
Surr: 4-Bromofluorobenzene	91.6	70-130		%Rec	1	1/20/2023 3:12:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/19/2023 11:06:33 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS12-1'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 11:05:00 AM

Lab ID: 2301576-031

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/20/2023 6:36:08 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/20/2023 6:36:08 AM
Surr: DNOP	104	69-147		%Rec	1	1/20/2023 6:36:08 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/23/2023 2:39:00 AM
Surr: BFB	88.7	37.7-212		%Rec	1	1/23/2023 2:39:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/20/2023 3:31:00 AM
Toluene	ND	0.047		mg/Kg	1	1/20/2023 3:31:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	1/20/2023 3:31:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	1/20/2023 3:31:00 AM
Surr: 4-Bromofluorobenzene	91.9	70-130		%Rec	1	1/20/2023 3:31:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	190	60		mg/Kg	20	1/19/2023 11:18:54 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS13-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 11:07:00 AM

Lab ID: 2301576-032

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	29	9.6		mg/Kg	1	1/20/2023 6:46:50 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/20/2023 6:46:50 AM
Surr: DNOP	104	69-147		%Rec	1	1/20/2023 6:46:50 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/23/2023 2:58:00 AM
Surr: BFB	85.4	37.7-212		%Rec	1	1/23/2023 2:58:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/20/2023 3:51:00 AM
Toluene	ND	0.047		mg/Kg	1	1/20/2023 3:51:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	1/20/2023 3:51:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	1/20/2023 3:51:00 AM
Surr: 4-Bromofluorobenzene	93.4	70-130		%Rec	1	1/20/2023 3:51:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	170	60		mg/Kg	20	1/19/2023 11:31:15 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS13-1'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 11:10:00 AM

Lab ID: 2301576-033

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	1/20/2023 6:57:30 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/20/2023 6:57:30 AM
Surr: DNOP	108	69-147		%Rec	1	1/20/2023 6:57:30 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/23/2023 3:17:00 AM
Surr: BFB	83.8	37.7-212		%Rec	1	1/23/2023 3:17:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/20/2023 4:10:00 AM
Toluene	ND	0.049		mg/Kg	1	1/20/2023 4:10:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	1/20/2023 4:10:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	1/20/2023 4:10:00 AM
Surr: 4-Bromofluorobenzene	92.8	70-130		%Rec	1	1/20/2023 4:10:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/19/2023 11:43:36 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS14-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 11:13:00 AM

Lab ID: 2301576-034

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	2600	96		mg/Kg	10	1/20/2023 11:30:42 AM
Motor Oil Range Organics (MRO)	1200	480		mg/Kg	10	1/20/2023 11:30:42 AM
Surr: DNOP	0	69-147	S	%Rec	10	1/20/2023 11:30:42 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	23		mg/Kg	5	1/23/2023 6:32:00 AM
Surr: BFB	99.0	37.7-212		%Rec	5	1/23/2023 6:32:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.12		mg/Kg	5	1/23/2023 6:32:00 AM
Toluene	4.4	0.23		mg/Kg	5	1/23/2023 6:32:00 AM
Ethylbenzene	ND	0.23		mg/Kg	5	1/23/2023 6:32:00 AM
Xylenes, Total	ND	0.47		mg/Kg	5	1/23/2023 6:32:00 AM
Surr: 4-Bromofluorobenzene	93.7	70-130		%Rec	5	1/23/2023 6:32:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	240	60		mg/Kg	20	1/19/2023 11:55:56 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS14-1'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 11:16:00 AM

Lab ID: 2301576-035

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	1/20/2023 11:41:16 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/20/2023 11:41:16 AM
Surr: DNOP	104	69-147		%Rec	1	1/20/2023 11:41:16 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/23/2023 7:31:00 AM
Surr: BFB	85.9	37.7-212		%Rec	1	1/23/2023 7:31:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/23/2023 7:31:00 AM
Toluene	ND	0.049		mg/Kg	1	1/23/2023 7:31:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	1/23/2023 7:31:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	1/23/2023 7:31:00 AM
Surr: 4-Bromofluorobenzene	87.0	70-130		%Rec	1	1/23/2023 7:31:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	320	59		mg/Kg	20	1/20/2023 12:32:58 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS15-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 11:19:00 AM

Lab ID: 2301576-036

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	920	99		mg/Kg	10	1/20/2023 11:51:47 AM
Motor Oil Range Organics (MRO)	500	490		mg/Kg	10	1/20/2023 11:51:47 AM
Surr: DNOP	0	69-147	S	%Rec	10	1/20/2023 11:51:47 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/23/2023 8:29:00 AM
Surr: BFB	95.1	37.7-212		%Rec	1	1/23/2023 8:29:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/23/2023 8:29:00 AM
Toluene	ND	0.048		mg/Kg	1	1/23/2023 8:29:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	1/23/2023 8:29:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	1/23/2023 8:29:00 AM
Surr: 4-Bromofluorobenzene	88.4	70-130		%Rec	1	1/23/2023 8:29:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	1/20/2023 1:09:58 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS15-1'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 11:22:00 AM

Lab ID: 2301576-037

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	1/20/2023 12:02:17 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/20/2023 12:02:17 PM
Surr: DNOP	108	69-147		%Rec	1	1/20/2023 12:02:17 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/23/2023 8:49:00 AM
Surr: BFB	89.9	37.7-212		%Rec	1	1/23/2023 8:49:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	1/23/2023 8:49:00 AM
Toluene	ND	0.047		mg/Kg	1	1/23/2023 8:49:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	1/23/2023 8:49:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	1/23/2023 8:49:00 AM
Surr: 4-Bromofluorobenzene	86.2	70-130		%Rec	1	1/23/2023 8:49:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	340	60		mg/Kg	20	1/20/2023 1:22:19 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS16-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 11:25:00 AM

Lab ID: 2301576-038

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	170	10		mg/Kg	1	1/20/2023 12:12:49 PM
Motor Oil Range Organics (MRO)	120	50		mg/Kg	1	1/20/2023 12:12:49 PM
Surr: DNOP	94.1	69-147		%Rec	1	1/20/2023 12:12:49 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	1/23/2023 9:09:00 AM
Surr: BFB	85.9	37.7-212		%Rec	1	1/23/2023 9:09:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	1/23/2023 9:09:00 AM
Toluene	ND	0.046		mg/Kg	1	1/23/2023 9:09:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	1/23/2023 9:09:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	1/23/2023 9:09:00 AM
Surr: 4-Bromofluorobenzene	84.0	70-130		%Rec	1	1/23/2023 9:09:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	840	60		mg/Kg	20	1/20/2023 1:34:40 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS16-1'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 11:29:00 AM

Lab ID: 2301576-039

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	1/20/2023 12:34:03 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/20/2023 12:34:03 PM
Surr: DNOP	106	69-147		%Rec	1	1/20/2023 12:34:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/23/2023 9:28:00 AM
Surr: BFB	86.0	37.7-212		%Rec	1	1/23/2023 9:28:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/23/2023 9:28:00 AM
Toluene	ND	0.049		mg/Kg	1	1/23/2023 9:28:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	1/23/2023 9:28:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	1/23/2023 9:28:00 AM
Surr: 4-Bromofluorobenzene	86.9	70-130		%Rec	1	1/23/2023 9:28:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	230	60		mg/Kg	20	1/20/2023 1:47:01 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS17B-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 3:01:00 PM

Lab ID: 2301576-040

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	12	9.7		mg/Kg	1	1/20/2023 12:44:35 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/20/2023 12:44:35 PM
Surr: DNOP	110	69-147		%Rec	1	1/20/2023 12:44:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/23/2023 9:48:00 AM
Surr: BFB	85.5	37.7-212		%Rec	1	1/23/2023 9:48:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/23/2023 9:48:00 AM
Toluene	ND	0.049		mg/Kg	1	1/23/2023 9:48:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	1/23/2023 9:48:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	1/23/2023 9:48:00 AM
Surr: 4-Bromofluorobenzene	87.0	70-130		%Rec	1	1/23/2023 9:48:00 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	2200	60		mg/Kg	20	1/20/2023 1:59:22 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS18-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 1:22:00 PM

Lab ID: 2301576-041

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	1700	190		mg/Kg	20	1/20/2023 12:55:09 PM
Motor Oil Range Organics (MRO)	1800	950		mg/Kg	20	1/20/2023 12:55:09 PM
Surr: DNOP	0	69-147	S	%Rec	20	1/20/2023 12:55:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/23/2023 10:27:00 AM
Surr: BFB	91.1	37.7-212		%Rec	1	1/23/2023 10:27:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/23/2023 10:27:00 AM
Toluene	ND	0.048		mg/Kg	1	1/23/2023 10:27:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	1/23/2023 10:27:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	1/23/2023 10:27:00 AM
Surr: 4-Bromofluorobenzene	88.4	70-130		%Rec	1	1/23/2023 10:27:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	1/21/2023 12:10:11 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS19A-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 2:07:00 PM

Lab ID: 2301576-042

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/20/2023 1:05:45 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/20/2023 1:05:45 PM
Surr: DNOP	98.6	69-147		%Rec	1	1/20/2023 1:05:45 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/23/2023 10:47:00 AM
Surr: BFB	90.5	37.7-212		%Rec	1	1/23/2023 10:47:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	1/23/2023 10:47:00 AM
Toluene	ND	0.047		mg/Kg	1	1/23/2023 10:47:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	1/23/2023 10:47:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	1/23/2023 10:47:00 AM
Surr: 4-Bromofluorobenzene	90.6	70-130		%Rec	1	1/23/2023 10:47:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	1/21/2023 12:22:32 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS20-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 1:28:00 PM

Lab ID: 2301576-043

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/20/2023 1:26:51 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/20/2023 1:26:51 PM
Surr: DNOP	105	69-147		%Rec	1	1/20/2023 1:26:51 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/23/2023 11:06:00 AM
Surr: BFB	86.9	37.7-212		%Rec	1	1/23/2023 11:06:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	1/23/2023 11:06:00 AM
Toluene	ND	0.049		mg/Kg	1	1/23/2023 11:06:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	1/23/2023 11:06:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	1/23/2023 11:06:00 AM
Surr: 4-Bromofluorobenzene	88.1	70-130		%Rec	1	1/23/2023 11:06:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	1/21/2023 12:34:52 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS21-0'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 2:20:00 PM

Lab ID: 2301576-044

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	14000	200		mg/Kg	20	1/20/2023 1:37:27 PM
Motor Oil Range Organics (MRO)	5300	980		mg/Kg	20	1/20/2023 1:37:27 PM
Surr: DNOP	0	69-147	S	%Rec	20	1/20/2023 1:37:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	1400	25		mg/Kg	5	1/23/2023 11:26:00 AM
Surr: BFB	1270	37.7-212	S	%Rec	5	1/23/2023 11:26:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	0.89	0.12		mg/Kg	5	1/23/2023 11:26:00 AM
Toluene	25	2.5		mg/Kg	50	1/24/2023 3:08:00 PM
Ethylbenzene	14	0.25		mg/Kg	5	1/23/2023 11:26:00 AM
Xylenes, Total	91	5.0		mg/Kg	50	1/24/2023 3:08:00 PM
Surr: 4-Bromofluorobenzene	497	70-130	S	%Rec	5	1/23/2023 11:26:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	1/21/2023 12:47:13 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2301576

Date Reported: 1/25/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS21-1'

Project: Taylor Deep 12 Federal 006

Collection Date: 1/13/2023 2:01:00 PM

Lab ID: 2301576-045

Matrix: SOIL

Received Date: 1/17/2023 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	56	9.9		mg/Kg	1	1/20/2023 2:19:46 PM
Motor Oil Range Organics (MRO)	59	49		mg/Kg	1	1/20/2023 2:19:46 PM
Surr: DNOP	119	69-147		%Rec	1	1/20/2023 2:19:46 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/23/2023 11:46:00 AM
Surr: BFB	112	37.7-212		%Rec	1	1/23/2023 11:46:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	1/23/2023 11:46:00 AM
Toluene	ND	0.048		mg/Kg	1	1/23/2023 11:46:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	1/23/2023 11:46:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	1/23/2023 11:46:00 AM
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	1/23/2023 11:46:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	1/21/2023 12:59:33 AM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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

WO#: 2301576

25-Jan-23

Client: Marathon Oil Company**Project:** Taylor Deep 12 Federal 006

Sample ID: MB-72686	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBS	Batch ID: 72686		RunNo: 94056							
Prep Date: 1/18/2023	Analysis Date: 1/18/2023		SeqNo: 3395603		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-72686	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSS	Batch ID: 72686		RunNo: 94056							
Prep Date: 1/18/2023	Analysis Date: 1/18/2023		SeqNo: 3395604		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.4	90	110			

Sample ID: MB-72693	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBS	Batch ID: 72693		RunNo: 94056							
Prep Date: 1/18/2023	Analysis Date: 1/19/2023		SeqNo: 3395667		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-72693	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSS	Batch ID: 72693		RunNo: 94056							
Prep Date: 1/18/2023	Analysis Date: 1/19/2023		SeqNo: 3395668		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.6	90	110			

Sample ID: MB-72723	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBS	Batch ID: 72723		RunNo: 94086							
Prep Date: 1/19/2023	Analysis Date: 1/19/2023		SeqNo: 3396840		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-72723	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSS	Batch ID: 72723		RunNo: 94086							
Prep Date: 1/19/2023	Analysis Date: 1/19/2023		SeqNo: 3396841		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.6	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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2301576

25-Jan-23

Client: Marathon Oil Company

Project: Taylor Deep 12 Federal 006

Sample ID: MB-72729	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 72729	RunNo: 94097								
Prep Date: 1/20/2023	Analysis Date: 1/20/2023	SeqNo: 3397311 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-72729	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 72729	RunNo: 94097								
Prep Date: 1/20/2023	Analysis Date: 1/20/2023	SeqNo: 3397312 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.2	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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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

WO#: 2301576

25-Jan-23

Client: Marathon Oil Company**Project:** Taylor Deep 12 Federal 006

Sample ID: LCS-72679	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 72679		RunNo: 94064							
Prep Date: 1/18/2023	Analysis Date: 1/19/2023		SeqNo: 3395762		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.0	61.9	130			
Surr: DNOP	5.9		5.000		118	69	147			

Sample ID: LCS-72682	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 72682		RunNo: 94064							
Prep Date: 1/18/2023	Analysis Date: 1/19/2023		SeqNo: 3395765		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.3	61.9	130			
Surr: DNOP	6.0		5.000		119	69	147			

Sample ID: MB-72679	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 72679		RunNo: 94064							
Prep Date: 1/18/2023	Analysis Date: 1/19/2023		SeqNo: 3395766		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		106	69	147			

Sample ID: MB-72682	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 72682		RunNo: 94064							
Prep Date: 1/18/2023	Analysis Date: 1/19/2023		SeqNo: 3395769		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		117	69	147			

Sample ID: 2301576-033AMS	SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: SS13-1'	Batch ID: 72682		RunNo: 94064							
Prep Date: 1/18/2023	Analysis Date: 1/20/2023		SeqNo: 3396916		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.7	48.54	0	87.6	54.2	135			
Surr: DNOP	5.4		4.854		112	69	147			

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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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

WO#: 2301576

25-Jan-23

Client: Marathon Oil Company**Project:** Taylor Deep 12 Federal 006

Sample ID: 2301576-033AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SS13-1'	Batch ID: 72682	RunNo: 94064								
Prep Date: 1/18/2023	Analysis Date: 1/20/2023	SeqNo: 3396917 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	9.4	46.82	0	84.5	54.2	135	7.25	29.2	
Surr: DNOP	5.3		4.682		114	69	147	0	0	

Sample ID: LCS-72711	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 72711	RunNo: 94118								
Prep Date: 1/19/2023	Analysis Date: 1/20/2023	SeqNo: 3398454 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	81.0	61.9	130			
Surr: DNOP	5.1		5.000		103	69	147			

Sample ID: MB-72711	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 72711	RunNo: 94118								
Prep Date: 1/19/2023	Analysis Date: 1/20/2023	SeqNo: 3398456 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	9.9		10.00		98.5	69	147			

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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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

WO#: 2301576

25-Jan-23

Client: Marathon Oil Company**Project:** Taylor Deep 12 Federal 006

Sample ID: ics-72649	SampType: LCS				TestCode: EPA Method 8015D: Gasoline Range					
Client ID: LCSS	Batch ID: 72649				RunNo: 94040					
Prep Date: 1/17/2023	Analysis Date: 1/18/2023				SeqNo: 3394797	Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2000		1000		200	37.7	212			

Sample ID: mb-72649	SampType: MBLK				TestCode: EPA Method 8015D: Gasoline Range					
Client ID: PBS	Batch ID: 72649				RunNo: 94040					
Prep Date: 1/17/2023	Analysis Date: 1/18/2023				SeqNo: 3394799	Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	960		1000		96.0	37.7	212			

Sample ID: ics-72664	SampType: LCS				TestCode: EPA Method 8015D: Gasoline Range					
Client ID: LCSS	Batch ID: 72664				RunNo: 94040					
Prep Date: 1/17/2023	Analysis Date: 1/18/2023				SeqNo: 3394826	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	90.4	72.3	137			
Surr: BFB	2100		1000		210	37.7	212			

Sample ID: mb-72664	SampType: MBLK				TestCode: EPA Method 8015D: Gasoline Range					
Client ID: PBS	Batch ID: 72664				RunNo: 94040					
Prep Date: 1/17/2023	Analysis Date: 1/18/2023				SeqNo: 3394827	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	910		1000		91.0	37.7	212			

Sample ID: ics-72670	SampType: LCS				TestCode: EPA Method 8015D: Gasoline Range					
Client ID: LCSS	Batch ID: 72670				RunNo: 94120					
Prep Date: 1/17/2023	Analysis Date: 1/22/2023				SeqNo: 3398467	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	25.00	0	81.5	72.3	137			
Surr: BFB	2000		1000		199	37.7	212			

Sample ID: mb-72670	SampType: MBLK				TestCode: EPA Method 8015D: Gasoline Range					
Client ID: PBS	Batch ID: 72670				RunNo: 94120					
Prep Date: 1/17/2023	Analysis Date: 1/22/2023				SeqNo: 3398468	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	920		1000		92.3	37.7	212			

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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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

WO#: 2301576

25-Jan-23

Client: Marathon Oil Company**Project:** Taylor Deep 12 Federal 006

Sample ID: 2301576-014ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: CONF15-0.5'	Batch ID: 72670	RunNo: 94120								
Prep Date: 1/17/2023	Analysis Date: 1/22/2023	SeqNo: 3398470 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.9	24.70	0	87.7	70	130			
Surr: BFB	2000		988.1		199	37.7	212			

Sample ID: 2301576-014amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: CONF15-0.5'	Batch ID: 72670	RunNo: 94120								
Prep Date: 1/17/2023	Analysis Date: 1/22/2023	SeqNo: 3398471 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.9	24.65	0	81.5	70	130	7.57	20	
Surr: BFB	2100		986.2		211	37.7	212	0	0	

Sample ID: lcs-72706	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 72706	RunNo: 94120								
Prep Date: 1/19/2023	Analysis Date: 1/23/2023	SeqNo: 3398491 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	5.0	25.00	0	77.8	72.3	137			
Surr: BFB	1900		1000		194	37.7	212			

Sample ID: mb-72706	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 72706	RunNo: 94120								
Prep Date: 1/19/2023	Analysis Date: 1/23/2023	SeqNo: 3398492 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	37.7	212			

Sample ID: 2301576-034ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SS14-0'	Batch ID: 72706	RunNo: 94120								
Prep Date: 1/19/2023	Analysis Date: 1/23/2023	SeqNo: 3398497 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	35	23	23.34	11.23	103	70	130			
Surr: BFB	5800		4669		125	37.7	212			

Sample ID: 2301576-034amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SS14-0'	Batch ID: 72706	RunNo: 94120								
Prep Date: 1/19/2023	Analysis Date: 1/23/2023	SeqNo: 3398498 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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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

WO#: 2301576

25-Jan-23

Client: Marathon Oil Company**Project:** Taylor Deep 12 Federal 006

Sample ID: 2301576-034amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SS14-0'	Batch ID: 72706	RunNo: 94120								
Prep Date: 1/19/2023	Analysis Date: 1/23/2023	SeqNo: 3398498	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	23	23.28	11.23	83.8	70	130	14.1	20	
Surr: BFB	5600		4655		121	37.7	212	0	0	

Sample ID: lcs-72758	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 72758	RunNo: 94152								
Prep Date: 1/23/2023	Analysis Date: 1/24/2023	SeqNo: 3400159	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		109	37.7	212			

Sample ID: mb-72758	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 72758	RunNo: 94152								
Prep Date: 1/23/2023	Analysis Date: 1/24/2023	SeqNo: 3400160	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	950		1000		94.8	37.7	212			

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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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

WO#: 2301576

25-Jan-23

Client: Marathon Oil Company**Project:** Taylor Deep 12 Federal 006

Sample ID: Ics-72649	SampType: LCS				TestCode: EPA Method 8021B: Volatiles					
Client ID: LCSS	Batch ID: 72649				RunNo: 94040					
Prep Date: 1/17/2023	Analysis Date: 1/18/2023				SeqNo: 3395112	Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		94.5	70	130			

Sample ID: mb-72649	SampType: MBLK				TestCode: EPA Method 8021B: Volatiles					
Client ID: PBS	Batch ID: 72649				RunNo: 94040					
Prep Date: 1/17/2023	Analysis Date: 1/18/2023				SeqNo: 3395113	Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.93		1.000		93.3	70	130			

Sample ID: Ics-72664	SampType: LCS				TestCode: EPA Method 8021B: Volatiles					
Client ID: LCSS	Batch ID: 72664				RunNo: 94040					
Prep Date: 1/17/2023	Analysis Date: 1/18/2023				SeqNo: 3395136	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	88.4	80	120			
Toluene	0.89	0.050	1.000	0	89.3	80	120			
Ethylbenzene	0.89	0.050	1.000	0	89.1	80	120			
Xylenes, Total	2.7	0.10	3.000	0	88.8	80	120			
Surr: 4-Bromofluorobenzene	0.95		1.000		94.7	70	130			

Sample ID: mb-72664	SampType: MBLK				TestCode: EPA Method 8021B: Volatiles					
Client ID: PBS	Batch ID: 72664				RunNo: 94040					
Prep Date: 1/17/2023	Analysis Date: 1/18/2023				SeqNo: 3395137	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	70	130			

Sample ID: Ics-72670	SampType: LCS				TestCode: EPA Method 8021B: Volatiles					
Client ID: LCSS	Batch ID: 72670				RunNo: 94091					
Prep Date: 1/17/2023	Analysis Date: 1/19/2023				SeqNo: 3397115	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	91.0	80	120			
Toluene	0.92	0.050	1.000	0	92.1	80	120			
Ethylbenzene	0.91	0.050	1.000	0	91.2	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.0	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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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

WO#: 2301576

25-Jan-23

Client: Marathon Oil Company**Project:** Taylor Deep 12 Federal 006

Sample ID: ics-72670	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 72670		RunNo: 94091							
Prep Date: 1/17/2023	Analysis Date: 1/19/2023		SeqNo: 3397115		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.94		1.000		93.7	70	130			

Sample ID: mb-72670	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 72670		RunNo: 94091							
Prep Date: 1/17/2023	Analysis Date: 1/19/2023		SeqNo: 3397116		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	0.90		1.000		90.0	70	130			

Sample ID: 2301576-015ams	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: CONF16-0.5'	Batch ID: 72670		RunNo: 94091							
Prep Date: 1/17/2023	Analysis Date: 1/19/2023		SeqNo: 3397119		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	0.9940	0	92.4	68.8	120			
Toluene	0.93	0.050	0.9940	0	94.0	73.6	124			
Ethylbenzene	0.93	0.050	0.9940	0	93.5	72.7	129			
Xylenes, Total	2.8	0.099	2.982	0	93.0	75.7	126			
Surr: 4-Bromofluorobenzene	0.92		0.9940		92.4	70	130			

Sample ID: 2301576-015amsd	SampType: MSD		TestCode: EPA Method 8021B: Volatiles							
Client ID: CONF16-0.5'	Batch ID: 72670		RunNo: 94091							
Prep Date: 1/17/2023	Analysis Date: 1/19/2023		SeqNo: 3397120		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	0.9911	0	96.0	68.8	120	3.52	20	
Toluene	0.97	0.050	0.9911	0	97.9	73.6	124	3.84	20	
Ethylbenzene	0.97	0.050	0.9911	0	97.5	72.7	129	3.86	20	
Xylenes, Total	2.9	0.099	2.973	0	96.8	75.7	126	3.68	20	
Surr: 4-Bromofluorobenzene	0.91		0.9911		92.1	70	130	0	0	

Sample ID: 2301576-035ams	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: SS14-1'	Batch ID: 72706		RunNo: 94120							
Prep Date: 1/19/2023	Analysis Date: 1/23/2023		SeqNo: 3398527		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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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

WO#: 2301576

25-Jan-23

Client: Marathon Oil Company**Project:** Taylor Deep 12 Federal 006

Sample ID: 2301576-035ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: SS14-1'	Batch ID: 72706	RunNo: 94120								
Prep Date: 1/19/2023	Analysis Date: 1/23/2023	SeqNo: 3398527 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	0.9804	0	85.9	68.8	120			
Toluene	0.86	0.049	0.9804	0	87.7	73.6	124			
Ethylbenzene	0.84	0.049	0.9804	0	86.1	72.7	129			
Xylenes, Total	2.5	0.098	2.941	0	84.9	75.7	126			
Surr: 4-Bromofluorobenzene	0.88		0.9804		89.3	70	130			

Sample ID: 2301576-035amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: SS14-1'	Batch ID: 72706	RunNo: 94120								
Prep Date: 1/19/2023	Analysis Date: 1/23/2023	SeqNo: 3398528 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.024	0.9747	0	85.2	68.8	120	1.40	20	
Toluene	0.85	0.049	0.9747	0	87.0	73.6	124	1.39	20	
Ethylbenzene	0.83	0.049	0.9747	0	85.6	72.7	129	1.15	20	
Xylenes, Total	2.5	0.097	2.924	0	85.1	75.7	126	0.411	20	
Surr: 4-Bromofluorobenzene	0.87		0.9747		88.8	70	130	0	0	

Sample ID: lcs-72706	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 72706	RunNo: 94120								
Prep Date: 1/19/2023	Analysis Date: 1/23/2023	SeqNo: 3399479 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.5	80	120			
Toluene	0.91	0.050	1.000	0	90.8	80	120			
Ethylbenzene	0.90	0.050	1.000	0	89.6	80	120			
Xylenes, Total	2.7	0.10	3.000	0	88.8	80	120			
Surr: 4-Bromofluorobenzene	0.89		1.000		88.9	70	130			

Sample ID: mb-72706	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 72706	RunNo: 94120								
Prep Date: 1/19/2023	Analysis Date: 1/23/2023	SeqNo: 3399480 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	0.86		1.000		86.3	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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2301576

25-Jan-23

Client: Marathon Oil Company

Project: Taylor Deep 12 Federal 006

Sample ID: lcs-72758	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 72758		RunNo: 94152							
Prep Date: 1/23/2023	Analysis Date: 1/24/2023		SeqNo: 3400370		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	70	130			

Sample ID: mb-72758	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 72758		RunNo: 94152							
Prep Date: 1/23/2023	Analysis Date: 1/24/2023		SeqNo: 3400371		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.94		1.000		93.7	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 standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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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: Marathon Oil Company

Work Order Number: 2301576

RcptNo: 1

Received By: Juan Rojas 1/17/2023 7:45:00 AM

Completed By: Sean Livingston 1/17/2023 8:07:20 AM

Reviewed By: *KRC 1-17-23*
Jan 17/23

Juan Rojas

Sean Livingston

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐

4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐

5. Sample(s) in proper container(s)? Yes ☒ No ☐

6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐

7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐

8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐

9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☒

10. Were any sample containers received broken? Yes ☐ No ☒

11. Does paperwork match bottle labels? 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: *KRC 1-17-23*

Special Handling (if applicable)

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

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Not Present	Morty		

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100

1

☐ Level 4 (Full Validation)

compliance

10

013

ed by:

_____ed by:

11

[illegible]

Released to Imaging: 6/13/2023 9:17:49 AM

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Analytical Report

Lab Order 2302002

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS21-2'

Project: Taylor Deep Federal 12 006

Collection Date: 1/31/2023 10:00:00 AM

Lab ID: 2302002-001

Matrix: MEOH (SOIL)

Received Date: 2/1/2023 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/1/2023 5:00:14 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/1/2023 5:00:14 PM
Surr: DNOP	112	69-147		%Rec	1	2/1/2023 5:00:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/1/2023 12:24:00 PM
Surr: BFB	102	37.7-212		%Rec	1	2/1/2023 12:24:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	2/1/2023 12:24:00 PM
Toluene	ND	0.050		mg/Kg	1	2/1/2023 12:24:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	2/1/2023 12:24:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	2/1/2023 12:24:00 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	2/1/2023 12:24:00 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	2/1/2023 8:26:32 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302002

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS17C-0'

Project: Taylor Deep Federal 12 006

Collection Date: 1/31/2023 9:42:00 AM

Lab ID: 2302002-003

Matrix: MEOH (SOIL)

Received Date: 2/1/2023 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	2/1/2023 5:21:19 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	2/1/2023 5:21:19 PM
Surr: DNOP	114	69-147		%Rec	1	2/1/2023 5:21:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/1/2023 1:04:00 PM
Surr: BFB	104	37.7-212		%Rec	1	2/1/2023 1:04:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	2/1/2023 1:04:00 PM
Toluene	ND	0.050		mg/Kg	1	2/1/2023 1:04:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	2/1/2023 1:04:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	2/1/2023 1:04:00 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	2/1/2023 1:04:00 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	2/1/2023 8:38:57 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2302329

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company

Client Sample ID: SS18 B-0'

Project: Taylor Deep Federal 12 006

Collection Date: 2/7/2023 10:11:00 AM

Lab ID: 2302329-001

Matrix: MEOH (SOIL)

Received Date: 2/8/2023 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	2/8/2023 11:48:23 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/8/2023 11:48:23 AM
Surr: DNOP	93.1	69-147		%Rec	1	2/8/2023 11:48:23 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	2/8/2023 2:12:00 PM
Surr: BFB	98.5	37.7-212		%Rec	1	2/8/2023 2:12:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.019		mg/Kg	1	2/8/2023 2:12:00 PM
Toluene	ND	0.037		mg/Kg	1	2/8/2023 2:12:00 PM
Ethylbenzene	ND	0.037		mg/Kg	1	2/8/2023 2:12:00 PM
Xylenes, Total	ND	0.075		mg/Kg	1	2/8/2023 2:12:00 PM
Surr: 4-Bromofluorobenzene	95.5	70-130		%Rec	1	2/8/2023 2:12:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	75	59		mg/Kg	20	2/9/2023 2:01:29 PM

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	Above Quantitation Range/Estimated Value
	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 standard limits. If undiluted results may be estimated.		

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ATTACHMENT F

Liner Integrity Inspection Forms



Energizing America

wescominc.com | info@wescominc.com | 218-724-1322

Taylor Deep 12 Federal #006 | Incident ID: nAPP2231924026

Carlsbad, NM
New Town & Williston, ND
Duluth, MN



(218) 724-1322
(701) 225-7847
wescominc.com

Liner Integrity Inspection – Photos attached

Date: 1-11-23

Facility: Taylor Deep 12 Federal #606

48-Hour Notification Given On: 1-6-23

Responsible party has Visually inspected the liner

☒ Y / ☐ N

Liner Remains Intact

Y / ☒ N

Liner had the ability to contain the leak in question

Y / ☒ N

Notes:

1 hole under stairs at NE corner
1 hole 5ft south of stairs at NE corner
1 hole 30ft south of NW corner
1 hole 20ft North of SW corner
1 hole 15ft North of SE corner
Liner separating at rear hatch of center tank

Company Representative (s)

Cole Burton

Taylor Deep Federal 12 #006

Liner Inspection - Tank Containment



Google Earth

Released to Imaging: 6/13/2023 9:17:49 AM

40 ft

Carlsbad, NM
New Town & Williston, ND
Duluth, MN



(218) 724-1322
(701) 225-7847
wescominc.com

Liner Integrity Inspection – Photos attached

Date: 1-12-23

Facility: Taylor Deep 12 Federal #006

48-Hour Notification Given On: 1-6-23

Responsible party has Visually inspected the liner Y/N

Liner Remains Intact Y/N

Liner had the ability to contain the leak in question Y/N

Notes: Heater Treater Containment

2 holes on East side next to stairs 3ft from wall
1 hole on North side 2 ft from wall
Gravel removed from North and East sides and 5 (2ft²) areas
throughout containment
None of the 5 (2ft²) areas had any evidence of liner failure
Removal of any further gravel would compromise the
liner integrity

Company Representative (s)

Cole Burton

Taylor Deep Federal 12 #006

Liner Inspection - Heater Treater Containment



ATTACHMENT G

48-Hour Confirmation Sampling & Liner Inspection Notification Email



Energizing America
wescominc.com | info@wescominc.com | 218-724-1322

Taylor Deep 12 Federal #006 | Incident ID: nAPP2231924026

From: [Cole Burton](#)
To: [OCD. Enviro \(ocd.enviro@emnrd.nm.gov\)](mailto:ocd.enviro@emnrd.nm.gov)
Cc: [Ashley Giovengo](#); [Joey Croce](#); [Shar Harvester](#); [Israel Estrella](#); "[Sanjari, Melodie \(MRO\)](#)"; [Cody York](#)
Subject: 48-Hour Confirmation Sample Notice & Liner Inspection Notice - Taylor Deep 12 Federal #006 (nAPP2231924026)
Date: Monday, January 9, 2023 8:16:00 AM

Hello All,

We intend to take confirmation samples and perform a liner inspection at the Taylor Deep 12 Federal #006 (nAPP2231924026) starting on Wednesday (1/11/23) through Friday (1/13/23).

Please let us know if you plan to be onsite to oversee this sampling event.

Thanks,

Cole Burton, Environmental Field Technician
O (218) 724-1322 | C (505) 205-0455
WescomInc.com | cole.burton@WescomInc.com
"I am in charge of my own safety."

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 185045

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 185045
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	Marathon's deferral requests to complete final remediation during any future major construction/alteration or final plugging/abandonment, whichever occurs first. Wescom and Marathon do not believe deferment will result in imminent risk to human health, the environment, or groundwater. The areas requested for deferral are the impacted soil beneath the tank containment and soil from beneath the heater treater containment shown on Figure 4 of the report. The areas have been delineated and documented in the report. At this time, OCD approves this request. The Deferral Request and C-141 will be accepted for record and marked accordingly. The release will remain open in OCD database files and reflect an open environmental issue. This is a federal site and will require like approval from the BLM.	6/13/2023