General Information

NMOCD District:	Hobbs	Incident ID:	nOY1814156697
Landowner:	Bureau of Land Management	RP Reference:	n/a
Client:	Devon Energy Production Company, LP	Site Location:	Mesa Verde 7 Federal #002
Date:	May 27, 2025	Project #:	25A-01341
Client Contact:	Jim Raley	Phone #:	575.689.7597
Vertex PM:	Kent Stallings	Phone #:	346.814.1413

Objective

The objective of the environmental remediation work plan is to identify exceedances found during the site assessment/characterization activity and propose an appropriate remediation technique to address the release assigned to Mesa Verde 7 Federal #002 (30-025-32399). The incident occurred on Mesa Verde 7 Battery on May 2, 2018, when an oil tank overflowed and released approximately 14.48 barrels of crude oil into the unlined earthen berm containment. Areas of environmental concern identified and delineated are around the tanks inside the earthen berm containment. An aerial photograph of the site with characterization locations is presented on Figure 1 (Attachment 1).

On December 14, 2024, an exploratory borehole was drilled within 0.5 miles of the site to determine and support New Mexico Oil Conservation Division (NMOCD) closure criteria. The exploratory borehole was dry at the termination depth of 105 feet. Closure criteria has been selected as per New Mexico Administrative Code 19.15.29. The closure criteria for the site are presented below.

Table 1. Closure Criteria for Soils Impacted by a Release

Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Limit
> 100 feet	Chloride	20,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

TDS – total dissolved solids
TPH – total petroleum hydrocarbons, GRO – gas range organics, DRO – diesel range organics, MRO – motor oil range organics
BTEX – benzene, toluene, ethylbenzene and xylenes

Site Assessment/Characterization

Site characterization was started on February 22, 2023, and completed on April 12, 2023. A total of 13 sample points were established and samples collected for field screening. Samples were obtained at various depths for horizontal and vertical delineation, and samples at the greatest lateral limits and the deepest vertical distance below criteria were submitted to the laboratory for analysis. In total, 47 samples were submitted to Hall Environmental Analysis Laboratory, Albuquerque, New Mexico, for analysis. The sample locations are presented on Figure 1 (Attachment 1). Laboratory analysis results have been compared to the above noted closure criteria and the results from the characterization activity are presented in Table 2 (Attachment 2); exceedances to criteria are identified in the table as bold with a grey background. Laboratory data reports are included in Attachment 3. Daily Field Reports are included in Attachment 4. All applicable research as it pertains to closure criteria selection is presented in Attachment 5.

Remedial Activities

General

Areas identified with contaminant concentrations above closure criteria will be remediated through excavation. Laboratory results from the site assessment/characterization have been referenced to estimate both the vertical and horizontal limits of the impacts and the volume of soil to be removed. Soil will be excavated to the extents of the known contamination as possible with infrastructure in close proximity. Field screening will be utilized to confirm removal of contaminated soil below the applicable closure criteria. Contaminated soils will be stored on a 30mil liner prior to disposal at an approved facility. Once excavation is complete, confirmatory samples will be collected and laboratory analysis completed to confirm closure criteria guidelines are met. Excavations will be backfilled with clean soil sourced locally.

NOY1814156697 – Inside Earthen Containment

Exceedances to closure criteria were identified at BH23-04, BH23-05, BH23-06, and BH23-07 around the tanks inside the earthen berm containment, as shown on Figure 1 (Attachment 1). Exceedances to closure criteria were also identified within the northwest corner of the berm itself at BH23-08. Impacted areas will be remediated to closure criteria via excavation where access is possible. Soil will be excavated at a planned depth of 2 ft immediately north, east, and south of the tanks. The excavation will be as close as safely possible to the active tanks.

Heavy equipment will be used to complete excavation in areas free of infrastructure or equipment. A hydrovac truck may be utilized to identify utility and buried pipelines where necessary, and hand tools will be utilized to remove contaminated soil in close proximity to equipment, buried utilities, and pipelines. A hand crew or hydrovac will complete excavation in proximity to the tanks, pipelines, and other equipment. Confirmation samples will be collected as per NMOCD guidance and submitted for laboratory analysis of all applicable parameters. The total remediation area north, east, and south of the tanks is approximately 1,165 square feet. The total estimated volume to be excavated is approximately **120 cubic yards**. Excavation is planned to be completed within 90 days of approval of this Environmental Site Remediation Work Plan.

Sample Point	Excavation Depth	Remediation Method
BH23-04	2'	Handcrew
BH23-05	2'	Handcrew
BH23-06	2'	Handcrew
BH23-07	2'	Handcrew
BH23-08	2'	Excavator/Handcrew

Should you have any questions or concerns, please do not hesitate to contact Kent Stallings at 346.814.1413 or kstallings@vertexresource.com.

Sharon Minnix — June 6, 2025

Sharon Minnix, B.Sc. — Date
ENVIRONMENTAL TECHNICIAN, REPORTING

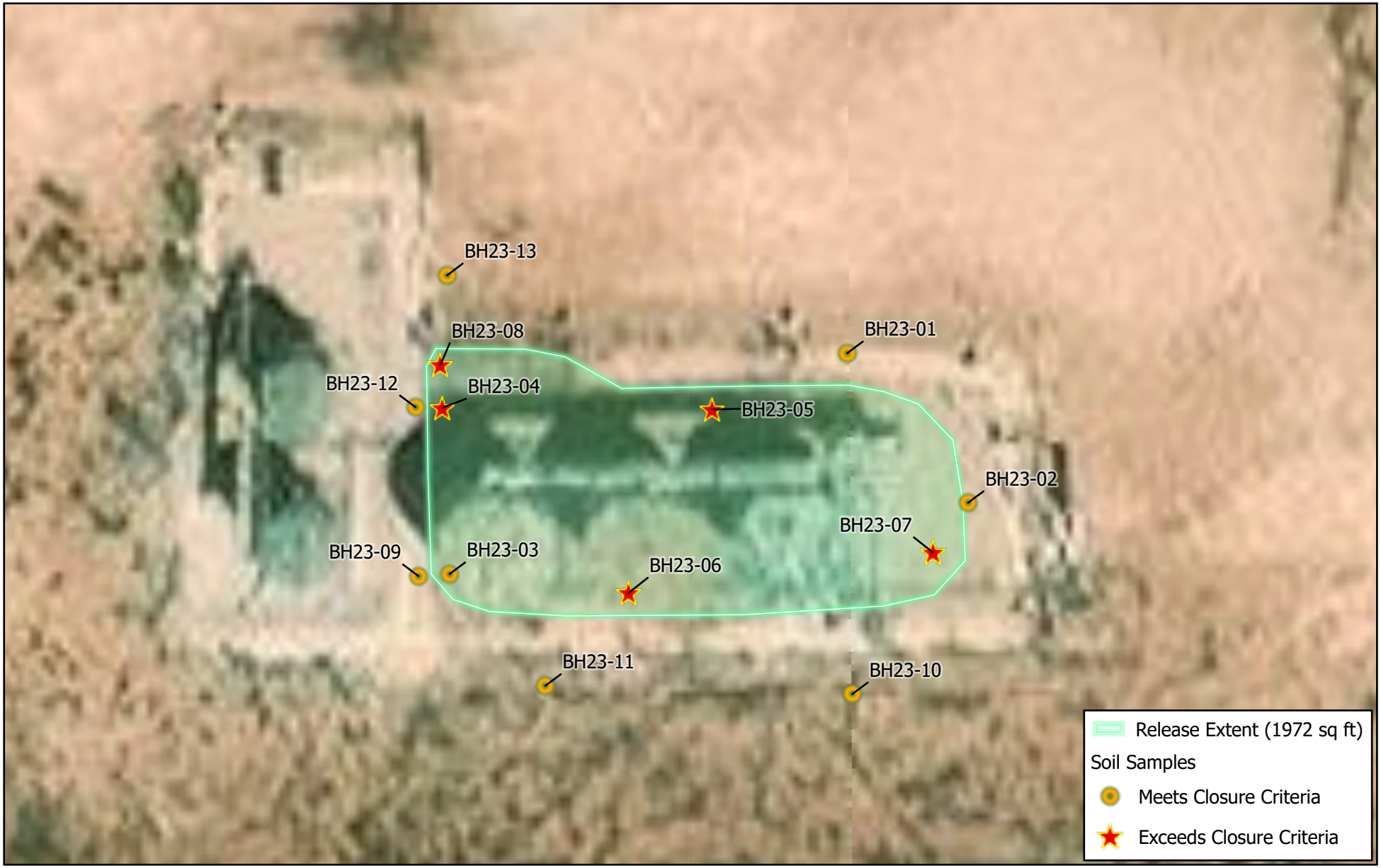
Kent Stallings — June 6, 2025

Kent Stallings, P.G — Date
PROJECT MANAGER, REPORT REVIEW

Attachments

Attachment 1. Characterization Sampling Site Schematic
Attachment 2. Initial Characterization Laboratory Results
Attachment 3. Laboratory Data Reports and Chain of Custody Forms
Attachment 4. Daily Field Reports with Photographs
Attachment 5. Closure Criteria Research

ATTACHMENT 1



VERTEX

0 10 20 ft

NAD 1983 StatePlane New Mexico East FIPS 3001 Feet

Map Center:
Lat/Long: 32.23704°N, 103.711681°W

Date: May 16/25

N

Characterization Sample Site Schematic
Mesa Verde 7 Federal #002

FIGURE: 1

devon

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Georeferenced image from Esri, 2025. Site features from GPS, Vertex, 2025.

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ATTACHMENT 2

Client Name: Devon Energy Production Company, LP
Site Name: Mesa Verde 7 Federal #002
NM OCD Tracking #: nOY1814156697
Project #: 25A-01341
Lab Reports: 2302A64, 2302B05, 2302B49, 2303177, and 2304661

Table 2. Initial Characterization Laboratory Results - Depth to Groundwater >100 feet bgs

Sample Description			Petroleum Hydrocarbons							Inorganic
			Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH23-01	0	February 22, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	February 22, 2023	ND	ND	ND	ND	ND	ND	ND	83
	4	February 22, 2023	ND	ND	ND	ND	ND	ND	ND	130
BH23-02	0	February 22, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	February 22, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	4	February 22, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-03	0	February 22, 2023	ND	ND	ND	380	780	380	1160	ND
	2	February 22, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	4	February 22, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-04	0	February 22, 2023	ND	ND	ND	170	480	170	650	ND
	2	February 22, 2023	ND	ND	ND	2700	2200	**2700**	**4900**	ND
	4	February 22, 2023	ND	ND	ND	330	630	330	960	ND
	6	February 23, 2023	ND	ND	ND	ND	ND	ND	ND	170
	8	February 23, 2023	ND	ND	ND	25	ND	25	25	110
BH23-05	0	February 23, 2023	ND	2.64	60	930	930	990	1920	ND
	2	February 23, 2023	0.028	0.928	21	1900	2400	**1921**	**4321**	ND
	4	February 23, 2023	ND	0.16	5.2	810	1400	815.2	2215.2	ND
	6	February 23, 2023	ND	0.13	ND	350	650	350	1000	ND
	8	February 23, 2023	ND	ND	ND	290	550	290	840	ND
	10	February 24, 2023	ND	ND	ND	25	ND	25	25	88
	12	February 24, 2023	ND	ND	ND	ND	ND	ND	ND	97
BH23-06	0	February 23, 2023	ND	ND	ND	8200	5300	**8200**	**13500**	260
	2	February 23, 2023	ND	ND	ND	1500	1700	**1500**	**3200**	ND
	4	February 23, 2023	ND	ND	ND	1700	2100	**1700**	**3800**	ND
BH23-07	0	February 24, 2023	1.2	**176.2**	2300	13000	4900	**15300**	**20200**	ND
	2	February 24, 2023	ND	ND	11	370	180	381	561	ND
	4	February 24, 2023	ND	ND	ND	22	ND	22	22	ND
	6	February 24, 2023	ND	ND	ND	55	ND	55	55	ND
	7	February 24, 2023	ND	ND	ND	21	ND	21	21	ND
BH23-08	0	March 1, 2023	ND	ND	ND	91	210	91	301	ND
	2	March 1, 2023	ND	ND	ND	1300	1600	**1300**	**2900**	ND
	4	March 1, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-09	0	March 1, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	March 1, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	4	March 1, 2023	ND	ND	ND	ND	ND	ND	ND	ND

Client Name: Devon Energy Production Company, LP
Site Name: Mesa Verde 7 Federal #002
NM OCD Tracking #: nOY1814156697
Project #: 25A-01341
Lab Reports: 2302A64, 2302B05, 2302B49, 2303177, and 2304661

Table 2. Initial Characterization Laboratory Results - Depth to Groundwater >100 feet bgs

Sample Description			Petroleum Hydrocarbons							Inorganic
			Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH23-10	0	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	4	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-11	0	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	4	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	120
BH23-12	0	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	4	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-13	0	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	4	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and grey shaded indicates exceedance outside of NMOCD Remediation Closure Criteria

ATTACHMENT 3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 06, 2023

Kent Stallings

Devon Energy
6488 Seven Rivers Highway
Artesia, NM 88210
TEL: (505) 350-1336
FAX

RE: Mesa Verde 7 Federal 2 OrderNo.: 2302A64

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 12 sample(s) on 2/24/2023 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2302A64**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Mesa Verde 7 Federal 2
Lab ID: 2302A64-001 **Matrix:** SOIL

Client Sample ID: BH23-01 0'
Collection Date: 2/22/2023 10:45:00 AM
Received Date: 2/24/2023 7:28:00 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	2/28/2023 1:22:19 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/28/2023 1:22:19 PM
Surr: DNOP	91.9	69-147		%Rec	1	2/28/2023 1:22:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/1/2023 1:32:55 AM
Surr: BFB	103	37.7-212		%Rec	1	3/1/2023 1:32:55 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	3/1/2023 1:32:55 AM
Toluene	ND	0.049		mg/Kg	1	3/1/2023 1:32:55 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/1/2023 1:32:55 AM
Xylenes, Total	ND	0.099		mg/Kg	1	3/1/2023 1:32:55 AM
Surr: 4-Bromofluorobenzene	94.5	70-130		%Rec	1	3/1/2023 1:32:55 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	2/27/2023 5:20:46 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302A64**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Mesa Verde 7 Federal 2
Lab ID: 2302A64-002 **Matrix:** SOIL

Client Sample ID: BH23-01 2'
Collection Date: 2/22/2023 10:50:00 AM
Received Date: 2/24/2023 7:28:00 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	2/28/2023 1:32:57 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/28/2023 1:32:57 PM
Surr: DNOP	96.6	69-147		%Rec	1	2/28/2023 1:32:57 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/1/2023 1:56:23 AM
Surr: BFB	102	37.7-212		%Rec	1	3/1/2023 1:56:23 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	3/1/2023 1:56:23 AM
Toluene	ND	0.046		mg/Kg	1	3/1/2023 1:56:23 AM
Ethylbenzene	ND	0.046		mg/Kg	1	3/1/2023 1:56:23 AM
Xylenes, Total	ND	0.091		mg/Kg	1	3/1/2023 1:56:23 AM
Surr: 4-Bromofluorobenzene	92.3	70-130		%Rec	1	3/1/2023 1:56:23 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	83	60		mg/Kg	20	2/27/2023 5:58:00 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302A64**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-01 4'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/22/2023 10:55:00 AM
Lab ID: 2302A64-003 **Matrix:** SOIL **Received Date:** 2/24/2023 7:28:00 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	2/28/2023 1:43:34 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/28/2023 1:43:34 PM
Surr: DNOP	105	69-147		%Rec	1	2/28/2023 1:43:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/1/2023 2:19:52 AM
Surr: BFB	103	37.7-212		%Rec	1	3/1/2023 2:19:52 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	3/1/2023 2:19:52 AM
Toluene	ND	0.048		mg/Kg	1	3/1/2023 2:19:52 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/1/2023 2:19:52 AM
Xylenes, Total	ND	0.097		mg/Kg	1	3/1/2023 2:19:52 AM
Surr: 4-Bromofluorobenzene	93.5	70-130		%Rec	1	3/1/2023 2:19:52 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	130	61		mg/Kg	20	2/27/2023 6:35:14 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302A64**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-02 0'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/22/2023 11:00:00 AM
Lab ID: 2302A64-004 **Matrix:** SOIL **Received Date:** 2/24/2023 7:28:00 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	2/28/2023 1:54:15 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	2/28/2023 1:54:15 PM
Surr: DNOP	90.4	69-147		%Rec	1	2/28/2023 1:54:15 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/1/2023 2:43:17 AM
Surr: BFB	99.6	37.7-212		%Rec	1	3/1/2023 2:43:17 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	3/1/2023 2:43:17 AM
Toluene	ND	0.049		mg/Kg	1	3/1/2023 2:43:17 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/1/2023 2:43:17 AM
Xylenes, Total	ND	0.098		mg/Kg	1	3/1/2023 2:43:17 AM
Surr: 4-Bromofluorobenzene	89.6	70-130		%Rec	1	3/1/2023 2:43:17 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	2/27/2023 6:47:38 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302A64**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Mesa Verde 7 Federal 2
Lab ID: 2302A64-005 **Matrix:** SOIL

Client Sample ID: BH23-02 2'
Collection Date: 2/22/2023 11:05:00 AM
Received Date: 2/24/2023 7:28:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	2/28/2023 2:04:55 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	2/28/2023 2:04:55 PM
Surr: DNOP	106	69-147		%Rec	1	2/28/2023 2:04:55 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/1/2023 3:06:47 AM
Surr: BFB	101	37.7-212		%Rec	1	3/1/2023 3:06:47 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	3/1/2023 3:06:47 AM
Toluene	ND	0.048		mg/Kg	1	3/1/2023 3:06:47 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/1/2023 3:06:47 AM
Xylenes, Total	ND	0.096		mg/Kg	1	3/1/2023 3:06:47 AM
Surr: 4-Bromofluorobenzene	91.9	70-130		%Rec	1	3/1/2023 3:06:47 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	2/27/2023 7:24:52 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2302A64**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-02 4'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/22/2023 11:10:00 AM
Lab ID: 2302A64-006 **Matrix:** SOIL **Received Date:** 2/24/2023 7:28:00 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	2/28/2023 3:27:11 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/28/2023 3:27:11 PM
Surr: DNOP	99.6	69-147		%Rec	1	2/28/2023 3:27:11 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/1/2023 3:30:11 AM
Surr: BFB	101	37.7-212		%Rec	1	3/1/2023 3:30:11 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	3/1/2023 3:30:11 AM
Toluene	ND	0.048		mg/Kg	1	3/1/2023 3:30:11 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/1/2023 3:30:11 AM
Xylenes, Total	ND	0.097		mg/Kg	1	3/1/2023 3:30:11 AM
Surr: 4-Bromofluorobenzene	92.1	70-130		%Rec	1	3/1/2023 3:30:11 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	2/27/2023 7:37:17 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2302A64**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-03 0'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/22/2023 11:15:00 AM
Lab ID: 2302A64-007 **Matrix:** SOIL **Received Date:** 2/24/2023 7:28:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	380	99		mg/Kg	10	2/28/2023 1:01:03 PM
Motor Oil Range Organics (MRO)	780	490		mg/Kg	10	2/28/2023 1:01:03 PM
Surr: DNOP	0	69-147	S	%Rec	10	2/28/2023 1:01:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/1/2023 3:53:38 AM
Surr: BFB	97.2	37.7-212		%Rec	1	3/1/2023 3:53:38 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	3/1/2023 3:53:38 AM
Toluene	ND	0.050		mg/Kg	1	3/1/2023 3:53:38 AM
Ethylbenzene	ND	0.050		mg/Kg	1	3/1/2023 3:53:38 AM
Xylenes, Total	ND	0.10		mg/Kg	1	3/1/2023 3:53:38 AM
Surr: 4-Bromofluorobenzene	88.7	70-130		%Rec	1	3/1/2023 3:53:38 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	2/27/2023 7:49:41 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302A64**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-03 2'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/22/2023 11:20:00 AM
Lab ID: 2302A64-008 **Matrix:** SOIL **Received Date:** 2/24/2023 7:28:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	2/28/2023 3:37:46 PM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	2/28/2023 3:37:46 PM
Surr: DNOP	121	69-147		%Rec	1	2/28/2023 3:37:46 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/1/2023 4:17:02 AM
Surr: BFB	99.6	37.7-212		%Rec	1	3/1/2023 4:17:02 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	3/1/2023 4:17:02 AM
Toluene	ND	0.050		mg/Kg	1	3/1/2023 4:17:02 AM
Ethylbenzene	ND	0.050		mg/Kg	1	3/1/2023 4:17:02 AM
Xylenes, Total	ND	0.099		mg/Kg	1	3/1/2023 4:17:02 AM
Surr: 4-Bromofluorobenzene	90.9	70-130		%Rec	1	3/1/2023 4:17:02 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	61		mg/Kg	20	2/27/2023 8:02:05 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302A64**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-03 4'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/22/2023 11:25:00 AM
Lab ID: 2302A64-009 **Matrix:** SOIL **Received Date:** 2/24/2023 7:28:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	2/28/2023 3:48:24 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	2/28/2023 3:48:24 PM
Surr: DNOP	97.1	69-147		%Rec	1	2/28/2023 3:48:24 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/1/2023 4:40:24 AM
Surr: BFB	100	37.7-212		%Rec	1	3/1/2023 4:40:24 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	3/1/2023 4:40:24 AM
Toluene	ND	0.049		mg/Kg	1	3/1/2023 4:40:24 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/1/2023 4:40:24 AM
Xylenes, Total	ND	0.098		mg/Kg	1	3/1/2023 4:40:24 AM
Surr: 4-Bromofluorobenzene	91.6	70-130		%Rec	1	3/1/2023 4:40:24 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	2/27/2023 8:14:30 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302A64**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-04 0'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/22/2023 11:30:00 AM
Lab ID: 2302A64-010 **Matrix:** SOIL
Received Date: 2/24/2023 7:28:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	170	91		mg/Kg	10	2/28/2023 7:10:12 PM
Motor Oil Range Organics (MRO)	480	460		mg/Kg	10	2/28/2023 7:10:12 PM
Surr: DNOP	0	69-147	S	%Rec	10	2/28/2023 7:10:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/28/2023 7:23:00 PM
Surr: BFB	103	37.7-212		%Rec	1	2/28/2023 7:23:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	3/1/2023 10:43:11 AM
Toluene	ND	0.047		mg/Kg	1	3/1/2023 10:43:11 AM
Ethylbenzene	ND	0.047		mg/Kg	1	3/1/2023 10:43:11 AM
Xylenes, Total	ND	0.095		mg/Kg	1	3/1/2023 10:43:11 AM
Surr: 4-Bromofluorobenzene	89.5	70-130		%Rec	1	3/1/2023 10:43:11 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	2/27/2023 11:13:58 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302A64**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-04 2'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/22/2023 11:35:00 AM
Lab ID: 2302A64-011 **Matrix:** SOIL
Received Date: 2/24/2023 7:28:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	2700	94		mg/Kg	10	2/28/2023 7:31:11 PM
Motor Oil Range Organics (MRO)	2200	470		mg/Kg	10	2/28/2023 7:31:11 PM
Surr: DNOP	0	69-147	S	%Rec	10	2/28/2023 7:31:11 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/28/2023 8:22:00 PM
Surr: BFB	107	37.7-212		%Rec	1	2/28/2023 8:22:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	3/1/2023 11:06:50 AM
Toluene	ND	0.049		mg/Kg	1	3/1/2023 11:06:50 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/1/2023 11:06:50 AM
Xylenes, Total	ND	0.098		mg/Kg	1	3/1/2023 11:06:50 AM
Surr: 4-Bromofluorobenzene	92.8	70-130		%Rec	1	3/1/2023 11:06:50 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	59		mg/Kg	20	2/27/2023 11:26:19 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302A64**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-04 4'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/22/2023 11:40:00 AM
Lab ID: 2302A64-012 **Matrix:** SOIL
Received Date: 2/24/2023 7:28:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	330	98		mg/Kg	10	2/28/2023 7:52:08 PM
Motor Oil Range Organics (MRO)	630	490		mg/Kg	10	2/28/2023 7:52:08 PM
Surr: DNOP	0	69-147	S	%Rec	10	2/28/2023 7:52:08 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/28/2023 9:20:00 PM
Surr: BFB	104	37.7-212		%Rec	1	2/28/2023 9:20:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	3/1/2023 11:30:29 AM
Toluene	ND	0.048		mg/Kg	1	3/1/2023 11:30:29 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/1/2023 11:30:29 AM
Xylenes, Total	ND	0.095		mg/Kg	1	3/1/2023 11:30:29 AM
Surr: 4-Bromofluorobenzene	95.3	70-130		%Rec	1	3/1/2023 11:30:29 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	2/27/2023 8:26:54 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 Quanitative 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#: **2302A64**
06-Mar-23

Client: Devon Energy
Project: Mesa Verde 7 Federal 2

Sample ID: **MB-73395** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **73395** RunNo: **94907**
Prep Date: **2/27/2023** Analysis Date: **2/27/2023** SeqNo: **3430889** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-73395** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **73395** RunNo: **94907**
Prep Date: **2/27/2023** Analysis Date: **2/27/2023** SeqNo: **3430890** 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			

Sample ID: **MB-73405** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **73405** RunNo: **94908**
Prep Date: **2/27/2023** Analysis Date: **2/27/2023** SeqNo: **3431077** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-73405** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **73405** RunNo: **94908**
Prep Date: **2/27/2023** Analysis Date: **2/27/2023** SeqNo: **3431078** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.7	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2302A64**
06-Mar-23

Client: Devon Energy
Project: Mesa Verde 7 Federal 2

Sample ID: **LCS-73377**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **73377**	RunNo: **94894**
Prep Date: **2/24/2023**	Analysis Date: **2/27/2023**	SeqNo: **3430273** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	36	10	50.00	0	72.8	61.9	130			
Surr: DNOP	3.9		5.000		79.0	69	147			

Sample ID: **MB-73377**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **73377**	RunNo: **94894**
Prep Date: **2/24/2023**	Analysis Date: **2/27/2023**	SeqNo: **3430279** 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	7.9		10.00		79.3	69	147			

Sample ID: **LCS-73400**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **73400**	RunNo: **94924**
Prep Date: **2/27/2023**	Analysis Date: **2/28/2023**	SeqNo: **3431562** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	89.5	61.9	130			
Surr: DNOP	4.3		5.000		86.1	69	147			

Sample ID: **MB-73400**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **73400**	RunNo: **94924**
Prep Date: **2/27/2023**	Analysis Date: **2/28/2023**	SeqNo: **3431563** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.3		10.00		83.2	69	147			

Sample ID: **MB-73474**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **73474**	RunNo: **94965**
Prep Date: **3/2/2023**	Analysis Date: **3/2/2023**	SeqNo: **3434009** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.4		10.00		84.0	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 Quanitative 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#: **2302A64**
06-Mar-23

Client: Devon Energy
Project: Mesa Verde 7 Federal 2

Sample ID: **LCS-73474** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **73474** RunNo: **94965**
Prep Date: **3/2/2023** Analysis Date: **3/2/2023** SeqNo: **3434010** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		90.1	69	147			

Sample ID: **MB-73456** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **73456** RunNo: **94965**
Prep Date: **3/1/2023** Analysis Date: **3/2/2023** SeqNo: **3434451** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		113	69	147			

Sample ID: **LCS-73456** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **73456** RunNo: **94965**
Prep Date: **3/1/2023** Analysis Date: **3/2/2023** SeqNo: **3434452** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		100	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 Quanitative 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#: **2302A64**
06-Mar-23

Client: Devon Energy
Project: Mesa Verde 7 Federal 2

Sample ID: **lcs-73371** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **73371** RunNo: **94929**
Prep Date: **2/24/2023** Analysis Date: **2/28/2023** SeqNo: **3431929** 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	96.3	72.3	137			
Surr: BFB	2200		1000		217	37.7	212			S

Sample ID: **mb-73371** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **73371** RunNo: **94929**
Prep Date: **2/24/2023** Analysis Date: **2/28/2023** SeqNo: **3431930** 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	1000		1000		100	37.7	212			

Sample ID: **2302A64-010ams** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-04 0'** Batch ID: **73371** RunNo: **94929**
Prep Date: **2/24/2023** Analysis Date: **2/28/2023** SeqNo: **3431932** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.7	23.67	0	82.8	70	130			
Surr: BFB	1900		947.0		205	37.7	212			

Sample ID: **2302A64-010amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-04 0'** Batch ID: **73371** RunNo: **94929**
Prep Date: **2/24/2023** Analysis Date: **2/28/2023** SeqNo: **3431933** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.7	23.67	0	91.0	70	130	9.39	20	
Surr: BFB	2000		947.0		208	37.7	212	0	0	

Sample ID: **lcs-73369** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **73369** RunNo: **94910**
Prep Date: **2/24/2023** Analysis Date: **2/28/2023** SeqNo: **3431995** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.1	72.3	137			
Surr: BFB	2000		1000		198	37.7	212			

Sample ID: **mb-73369** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **73369** RunNo: **94910**
Prep Date: **2/24/2023** Analysis Date: **2/28/2023** SeqNo: **3431996** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2302A64**
06-Mar-23

Client: Devon Energy
Project: Mesa Verde 7 Federal 2

Sample ID: **mb-73369** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **73369** RunNo: **94910**
Prep Date: **2/24/2023** Analysis Date: **2/28/2023** SeqNo: **3431996** 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	1000		1000		100	37.7	212			

Sample ID: **mb-73371** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **73371** RunNo: **94933**
Prep Date: **2/24/2023** Analysis Date: **3/1/2023** SeqNo: **3432056** 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	1000		1000		102	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 Quanitative 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#: **2302A64**
06-Mar-23

Client: Devon Energy
Project: Mesa Verde 7 Federal 2

Sample ID: **LCS-73369** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **73369** RunNo: **94910**
Prep Date: **2/24/2023** Analysis Date: **2/28/2023** SeqNo: **3432010** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.025	1.000	0	81.9	80	120			
Toluene	0.84	0.050	1.000	0	83.9	80	120			
Ethylbenzene	0.83	0.050	1.000	0	83.2	80	120			
Xylenes, Total	2.5	0.10	3.000	0	83.0	80	120			
Surr: 4-Bromofluorobenzene	0.93		1.000		93.3	70	130			

Sample ID: **mb-73369** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **73369** RunNo: **94910**
Prep Date: **2/24/2023** Analysis Date: **2/28/2023** SeqNo: **3432011** 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		91.7	70	130			

Sample ID: **LCS-73371** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **73371** RunNo: **94933**
Prep Date: **2/24/2023** Analysis Date: **3/1/2023** SeqNo: **3432053** 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	87.5	80	120			
Toluene	0.92	0.050	1.000	0	91.6	80	120			
Ethylbenzene	0.89	0.050	1.000	0	89.3	80	120			
Xylenes, Total	2.7	0.10	3.000	0	90.3	80	120			
Surr: 4-Bromofluorobenzene	0.96		1.000		95.8	70	130			

Sample ID: **mb-73371** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **73371** RunNo: **94933**
Prep Date: **2/24/2023** Analysis Date: **3/1/2023** SeqNo: **3432077** 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		93.4	70	130			

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 Quanitative 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#: **2302A64**
06-Mar-23

Client: Devon Energy
Project: Mesa Verde 7 Federal 2

Sample ID: **2302a64-011ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-04 2'** Batch ID: **73371** RunNo: **94933**
Prep Date: **2/24/2023** Analysis Date: **3/1/2023** SeqNo: **3432569** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.024	0.9718	0	85.8	68.8	120			
Toluene	0.86	0.049	0.9718	0	88.2	73.6	124			
Ethylbenzene	0.85	0.049	0.9718	0	87.5	72.7	129			
Xylenes, Total	2.6	0.097	2.915	0.04873	86.1	75.7	126			
Surr: 4-Bromofluorobenzene	0.92		0.9718		94.3	70	130			

Sample ID: **2302a64-011amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-04 2'** Batch ID: **73371** RunNo: **94933**
Prep Date: **2/24/2023** Analysis Date: **3/1/2023** SeqNo: **3432570** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.024	0.9747	0	87.8	68.8	120	2.58	20	
Toluene	0.88	0.049	0.9747	0	90.1	73.6	124	2.42	20	
Ethylbenzene	0.86	0.049	0.9747	0	88.7	72.7	129	1.65	20	
Xylenes, Total	2.6	0.097	2.924	0.04873	87.0	75.7	126	1.26	20	
Surr: 4-Bromofluorobenzene	0.91		0.9747		93.8	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 Quanitative 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

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: Devon Energy | Work Order Number: 2302A64 | RcptNo: 1

Received By: Tracy Casarrubias 2/24/2023 7:28:00 AM

Completed By: Tracy Casarrubias 2/24/2023 7:48:33 AM

Reviewed By: JM 2/24/23

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: SC 2/24/23

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	3.6	Good	Yes	Morty		

Chain-of-Custody Record

Client: Devon (Vertex)

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 48 Hr

Project Name: Mesa Verde 7 Federal 2

Project #: 21E-02816

Project Manager: Kent Stallings

Sampler: S. Reta

On Ice: ☑ Yes ☐ No many

# of Coolers:

Cooler Temp(Including CF): 3.6-.0=3.6 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2302A64	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
2/22/23	10:45	Soil	BH23-01 0'	4oz Jar	Ice	001										
	10:50		BH23-01 2'			002										
	10:55		BH23-01 4'			003										
	11:00		BH23-02 0'			004										
	11:05		BH23-02 2'			005										
	11:10		BH23-02 4'			006										
	11:15		BH23-03 0'			007										
	11:20		BH23-03 2'			008										
	11:25		BH23-03 4'			009										
	11:30		BH23-04 0'			010										
	11:35		BH23-04 2'			011										
	11:40		BH23-04 4'			012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
2/22/23	17:14	S. Reta			2/23/23	915
2/23/23	1900				2/24/23	7:20

Remarks:
Direct Bill to Devon
cc: Jacob Reta

Devon/Harvard

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 06, 2023

Kent Stallings

Devon Energy
6488 Seven Rivers Highway
Artesia, NM 88210
TEL: (505) 350-1336
FAX

RE: Mesa Verde 7 Federal 2 OrderNo.: 2302B05

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 10 sample(s) on 2/25/2023 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2302B05**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-04 6'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/23/2023 10:30:00 AM
Lab ID: 2302B05-001 **Matrix:** SOIL **Received Date:** 2/25/2023 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/1/2023 2:31:18 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/1/2023 2:31:18 PM
Surr: DNOP	105	69-147		%Rec	1	3/1/2023 2:31:18 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2023 2:03:04 AM
Surr: BFB	102	37.7-212		%Rec	1	3/2/2023 2:03:04 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	3/2/2023 2:03:04 AM
Toluene	ND	0.049		mg/Kg	1	3/2/2023 2:03:04 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2023 2:03:04 AM
Xylenes, Total	ND	0.099		mg/Kg	1	3/2/2023 2:03:04 AM
Surr: 4-Bromofluorobenzene	91.6	70-130		%Rec	1	3/2/2023 2:03:04 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	170	60		mg/Kg	20	2/28/2023 7:28:58 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302B05**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-04 8'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/23/2023 10:35:00 AM
Lab ID: 2302B05-002 **Matrix:** SOIL **Received Date:** 2/25/2023 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	25	9.9		mg/Kg	1	3/1/2023 2:41:58 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/1/2023 2:41:58 PM
Surr: DNOP	115	69-147		%Rec	1	3/1/2023 2:41:58 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/2/2023 2:26:37 AM
Surr: BFB	104	37.7-212		%Rec	1	3/2/2023 2:26:37 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	3/2/2023 2:26:37 AM
Toluene	ND	0.050		mg/Kg	1	3/2/2023 2:26:37 AM
Ethylbenzene	ND	0.050		mg/Kg	1	3/2/2023 2:26:37 AM
Xylenes, Total	ND	0.099		mg/Kg	1	3/2/2023 2:26:37 AM
Surr: 4-Bromofluorobenzene	92.4	70-130		%Rec	1	3/2/2023 2:26:37 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	110	60		mg/Kg	20	2/28/2023 7:41:22 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302B05**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-05 0'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/23/2023 10:40:00 AM
Lab ID: 2302B05-003 **Matrix:** SOIL **Received Date:** 2/25/2023 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	930	180		mg/Kg	20	3/1/2023 1:27:35 PM
Motor Oil Range Organics (MRO)	930	890		mg/Kg	20	3/1/2023 1:27:35 PM
Surr: DNOP	0	69-147	S	%Rec	20	3/1/2023 1:27:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	60	24		mg/Kg	5	3/2/2023 2:50:09 AM
Surr: BFB	162	37.7-212		%Rec	5	3/2/2023 2:50:09 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.12		mg/Kg	5	3/2/2023 2:50:09 AM
Toluene	0.46	0.24		mg/Kg	5	3/2/2023 2:50:09 AM
Ethylbenzene	0.38	0.24		mg/Kg	5	3/2/2023 2:50:09 AM
Xylenes, Total	1.8	0.48		mg/Kg	5	3/2/2023 2:50:09 AM
Surr: 4-Bromofluorobenzene	96.1	70-130		%Rec	5	3/2/2023 2:50:09 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	2/28/2023 7:53:47 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302B05**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-05 2'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/23/2023 10:45:00 AM
Lab ID: 2302B05-004 **Matrix:** SOIL **Received Date:** 2/25/2023 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	1900	92		mg/Kg	10	3/1/2023 4:50:26 PM
Motor Oil Range Organics (MRO)	2400	460		mg/Kg	10	3/1/2023 4:50:26 PM
Surr: DNOP	0	69-147	S	%Rec	10	3/1/2023 4:50:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	21	4.6		mg/Kg	1	3/2/2023 3:37:11 AM
Surr: BFB	201	37.7-212		%Rec	1	3/2/2023 3:37:11 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	0.028	0.023		mg/Kg	1	3/2/2023 3:37:11 AM
Toluene	0.12	0.046		mg/Kg	1	3/2/2023 3:37:11 AM
Ethylbenzene	0.14	0.046		mg/Kg	1	3/2/2023 3:37:11 AM
Xylenes, Total	0.64	0.093		mg/Kg	1	3/2/2023 3:37:11 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	3/2/2023 3:37:11 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	59		mg/Kg	20	2/28/2023 8:06:12 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302B05**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-05 4'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/23/2023 10:50:00 AM
Lab ID: 2302B05-005 **Matrix:** SOIL **Received Date:** 2/25/2023 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	810	91		mg/Kg	10	3/1/2023 5:22:31 PM
Motor Oil Range Organics (MRO)	1400	450		mg/Kg	10	3/1/2023 5:22:31 PM
Surr: DNOP	0	69-147	S	%Rec	10	3/1/2023 5:22:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	5.2	4.7		mg/Kg	1	3/2/2023 4:00:43 AM
Surr: BFB	127	37.7-212		%Rec	1	3/2/2023 4:00:43 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	3/2/2023 4:00:43 AM
Toluene	ND	0.047		mg/Kg	1	3/2/2023 4:00:43 AM
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2023 4:00:43 AM
Xylenes, Total	0.16	0.094		mg/Kg	1	3/2/2023 4:00:43 AM
Surr: 4-Bromofluorobenzene	92.5	70-130		%Rec	1	3/2/2023 4:00:43 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	2/28/2023 8:18:36 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302B05**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-05 6'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/23/2023 10:55:00 AM
Lab ID: 2302B05-006 **Matrix:** SOIL **Received Date:** 2/25/2023 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	350	99		mg/Kg	10	3/2/2023 11:33:38 AM
Motor Oil Range Organics (MRO)	650	490		mg/Kg	10	3/2/2023 11:33:38 AM
Surr: DNOP	0	69-147	S	%Rec	10	3/2/2023 11:33:38 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/2/2023 4:24:12 AM
Surr: BFB	118	37.7-212		%Rec	1	3/2/2023 4:24:12 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	3/2/2023 4:24:12 AM
Toluene	ND	0.046		mg/Kg	1	3/2/2023 4:24:12 AM
Ethylbenzene	ND	0.046		mg/Kg	1	3/2/2023 4:24:12 AM
Xylenes, Total	0.13	0.093		mg/Kg	1	3/2/2023 4:24:12 AM
Surr: 4-Bromofluorobenzene	90.4	70-130		%Rec	1	3/2/2023 4:24:12 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	2/28/2023 8:31:01 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302B05**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-05 8'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/23/2023 11:00:00 AM
Lab ID: 2302B05-007 **Matrix:** SOIL **Received Date:** 2/25/2023 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	290	9.3		mg/Kg	1	3/2/2023 12:05:15 PM
Motor Oil Range Organics (MRO)	550	46		mg/Kg	1	3/2/2023 12:05:15 PM
Surr: DNOP	104	69-147		%Rec	1	3/2/2023 12:05:15 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/2/2023 4:47:40 AM
Surr: BFB	109	37.7-212		%Rec	1	3/2/2023 4:47:40 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	3/2/2023 4:47:40 AM
Toluene	ND	0.049		mg/Kg	1	3/2/2023 4:47:40 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/2/2023 4:47:40 AM
Xylenes, Total	ND	0.098		mg/Kg	1	3/2/2023 4:47:40 AM
Surr: 4-Bromofluorobenzene	92.2	70-130		%Rec	1	3/2/2023 4:47:40 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	2/28/2023 8:43:25 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302B05**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-06 0'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/23/2023 11:05:00 AM
Lab ID: 2302B05-008 **Matrix:** SOIL **Received Date:** 2/25/2023 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	8200	93		mg/Kg	10	3/1/2023 7:18:47 PM
Motor Oil Range Organics (MRO)	5300	470		mg/Kg	10	3/1/2023 7:18:47 PM
Surr: DNOP	0	69-147	S	%Rec	10	3/1/2023 7:18:47 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/2/2023 5:11:09 AM
Surr: BFB	100	37.7-212		%Rec	1	3/2/2023 5:11:09 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	3/2/2023 5:11:09 AM
Toluene	ND	0.047		mg/Kg	1	3/2/2023 5:11:09 AM
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2023 5:11:09 AM
Xylenes, Total	ND	0.094		mg/Kg	1	3/2/2023 5:11:09 AM
Surr: 4-Bromofluorobenzene	88.9	70-130		%Rec	1	3/2/2023 5:11:09 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	260	60		mg/Kg	20	2/28/2023 8:55:49 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302B05**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-06 2'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/23/2023 11:10:00 AM
Lab ID: 2302B05-009 **Matrix:** SOIL **Received Date:** 2/25/2023 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	1500	91		mg/Kg	10	3/1/2023 7:50:10 PM
Motor Oil Range Organics (MRO)	1700	450		mg/Kg	10	3/1/2023 7:50:10 PM
Surr: DNOP	0	69-147	S	%Rec	10	3/1/2023 7:50:10 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2023 5:34:37 AM
Surr: BFB	96.6	37.7-212		%Rec	1	3/2/2023 5:34:37 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	3/2/2023 5:34:37 AM
Toluene	ND	0.048		mg/Kg	1	3/2/2023 5:34:37 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2023 5:34:37 AM
Xylenes, Total	ND	0.095		mg/Kg	1	3/2/2023 5:34:37 AM
Surr: 4-Bromofluorobenzene	89.7	70-130		%Rec	1	3/2/2023 5:34:37 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	61		mg/Kg	20	2/28/2023 9:08:13 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302B05**
Date Reported: **3/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-06 4'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/23/2023 11:15:00 AM
Lab ID: 2302B05-010 **Matrix:** SOIL
Received Date: 2/25/2023 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	1700	93		mg/Kg	10	3/1/2023 8:21:27 PM
Motor Oil Range Organics (MRO)	2100	470		mg/Kg	10	3/1/2023 8:21:27 PM
Surr: DNOP	0	69-147	S	%Rec	10	3/1/2023 8:21:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/2/2023 5:58:07 AM
Surr: BFB	98.1	37.7-212		%Rec	1	3/2/2023 5:58:07 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	3/2/2023 5:58:07 AM
Toluene	ND	0.047		mg/Kg	1	3/2/2023 5:58:07 AM
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2023 5:58:07 AM
Xylenes, Total	ND	0.094		mg/Kg	1	3/2/2023 5:58:07 AM
Surr: 4-Bromofluorobenzene	89.5	70-130		%Rec	1	3/2/2023 5:58:07 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	2/28/2023 9:20:38 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 Quanitative 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#: **2302B05**
06-Mar-23

Client: Devon Energy
Project: Mesa Verde 7 Federal 2

Sample ID: **MB-73423**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **73423**	RunNo: **94937**							
Prep Date: **2/28/2023**	Analysis Date: **2/28/2023**	SeqNo: **3432208**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-73423**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **73423**	RunNo: **94937**							
Prep Date: **2/28/2023**	Analysis Date: **2/28/2023**	SeqNo: **3432210**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.5	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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#: **2302B05**

06-Mar-23

Client: Devon Energy

Project: Mesa Verde 7 Federal 2

Sample ID: **LCS-73421**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **73421**	RunNo: **94952**
Prep Date: **2/28/2023**	Analysis Date: **3/1/2023**	SeqNo: **3432996** 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	81.2	61.9	130			
Surr: DNOP	4.5		5.000		90.0	69	147			

Sample ID: **MB-73421**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **73421**	RunNo: **94952**
Prep Date: **2/28/2023**	Analysis Date: **3/1/2023**	SeqNo: **3432998** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		104	69	147			

Sample ID: **MB-73436**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **73436**	RunNo: **94952**
Prep Date: **2/28/2023**	Analysis Date: **3/1/2023**	SeqNo: **3433068** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.2		10.00		92.3	69	147			

Sample ID: **LCS-73436**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **73436**	RunNo: **94952**
Prep Date: **2/28/2023**	Analysis Date: **3/1/2023**	SeqNo: **3433069** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		92.6	69	147			

Sample ID: **MB-73474**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **73474**	RunNo: **94965**
Prep Date: **3/2/2023**	Analysis Date: **3/2/2023**	SeqNo: **3434009** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.4		10.00		84.0	69	147			

Sample ID: **LCS-73474**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **73474**	RunNo: **94965**
Prep Date: **3/2/2023**	Analysis Date: **3/2/2023**	SeqNo: **3434010** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		90.1	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 Quanitative 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#: **2302B05**
06-Mar-23

Client: Devon Energy
Project: Mesa Verde 7 Federal 2

Sample ID: **MB-73456**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **73456**	RunNo: **94965**
Prep Date: **3/1/2023**	Analysis Date: **3/2/2023**	SeqNo: **3434451** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		113	69	147			

Sample ID: **LCS-73456**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **73456**	RunNo: **94965**
Prep Date: **3/1/2023**	Analysis Date: **3/2/2023**	SeqNo: **3434452** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		100	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 Quanitative 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#: **2302B05**
06-Mar-23

Client: Devon Energy
Project: Mesa Verde 7 Federal 2

Sample ID: **lcs-73396**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **73396**	RunNo: **94933**
Prep Date: **2/27/2023**	Analysis Date: **3/1/2023**	SeqNo: **3433434** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.8	72.3	137			
Surr: BFB	1900		1000		193	37.7	212			

Sample ID: **mb-73396**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **73396**	RunNo: **94933**
Prep Date: **2/27/2023**	Analysis Date: **3/1/2023**	SeqNo: **3433435** 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	1000		1000		102	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 Quanitative 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#: **2302B05**
06-Mar-23

Client: Devon Energy
Project: Mesa Verde 7 Federal 2

Sample ID: **LCS-73396** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **73396** RunNo: **94933**
Prep Date: **2/27/2023** Analysis Date: **3/1/2023** SeqNo: **3433469** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	1.000	0	83.5	80	120			
Toluene	0.87	0.050	1.000	0	87.0	80	120			
Ethylbenzene	0.86	0.050	1.000	0	85.8	80	120			
Xylenes, Total	2.6	0.10	3.000	0	86.2	80	120			
Surr: 4-Bromofluorobenzene	0.94		1.000		94.2	70	130			

Sample ID: **mb-73396** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **73396** RunNo: **94933**
Prep Date: **2/27/2023** Analysis Date: **3/1/2023** SeqNo: **3433470** 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		91.9	70	130			

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: Devon Energy | Work Order Number: 2302B05 | RcptNo: 1

Received By: Tracy Casarrubias 2/25/2023 9:00:00 AM

Completed By: Tracy Casarrubias 2/25/2023 10:09:57 AM

Reviewed By: PAD 2/27/23

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: TML 2/25/23

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	Yes	Yogi		

Chain-of-Custody Record

Client: Devon (Vertex)

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 48 Hr

Project Name: Mesa Verde 7 Federal 2

Project #: 21E-02816

Project Manager: Kent Stallings

Sampler: J. Reta

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.1 - 0 = 2.1 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2302805
02/23/23	10:30	Soil	BH23-04 6'	4oz Jar	Ice	001
	10:35		BH23-04 8'			002
	10:40		BH23-05 0'			003
	10:45		BH23-05 2'			004
	10:50		BH23-05 4'			005
	10:55		BH23-05 6'			006
	11:00		BH23-05 8'			007
	11:05		BH23-06 0'			008
	11:10		BH23-06 2'			009
	11:15		BH23-06 4'			010

Analysis Request

BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
02/23/23	16:52	J. Reta				
2/24/23	1400			Courier	2/25/23	9:00

Remarks: Direct Bill to Devon
cc: Jacob Reta

Devon/Harvard

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 08, 2023

Kent Stallings

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX:

RE: Mesa Verde 7 Federal 2 OrderNo.: 2302B49

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 7 sample(s) on 2/28/2023 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2302B49**
Date Reported: **3/8/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-05 10'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/24/2023 10:40:00 AM
Lab ID: 2302B49-001 **Matrix:** SOIL **Received Date:** 2/28/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	25	9.4		mg/Kg	1	3/2/2023 12:05:40 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/2/2023 12:05:40 AM
Surr: DNOP	102	69-147		%Rec	1	3/2/2023 12:05:40 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2023 3:32:37 AM
Surr: BFB	98.2	37.7-212		%Rec	1	3/3/2023 3:32:37 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	3/3/2023 3:32:37 AM
Toluene	ND	0.048		mg/Kg	1	3/3/2023 3:32:37 AM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2023 3:32:37 AM
Xylenes, Total	ND	0.096		mg/Kg	1	3/3/2023 3:32:37 AM
Surr: 4-Bromofluorobenzene	89.6	70-130		%Rec	1	3/3/2023 3:32:37 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	88	60		mg/Kg	20	3/1/2023 8:03:09 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302B49**
Date Reported: **3/8/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-05 12'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/24/2023 10:50:00 AM
Lab ID: 2302B49-002 **Matrix:** SOIL **Received Date:** 2/28/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	3/2/2023 12:16:22 AM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	3/2/2023 12:16:22 AM
Surr: DNOP	125	69-147		%Rec	1	3/2/2023 12:16:22 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2023 3:55:56 AM
Surr: BFB	101	37.7-212		%Rec	1	3/3/2023 3:55:56 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	3/3/2023 3:55:56 AM
Toluene	ND	0.049		mg/Kg	1	3/3/2023 3:55:56 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2023 3:55:56 AM
Xylenes, Total	ND	0.098		mg/Kg	1	3/3/2023 3:55:56 AM
Surr: 4-Bromofluorobenzene	92.2	70-130		%Rec	1	3/3/2023 3:55:56 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	97	60		mg/Kg	20	3/1/2023 8:15:33 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302B49**
Date Reported: **3/8/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-07 0'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/24/2023 11:45:00 AM
Lab ID: 2302B49-003 **Matrix:** SOIL **Received Date:** 2/28/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	13000	200		mg/Kg	20	3/2/2023 12:27:01 AM
Motor Oil Range Organics (MRO)	4900	980		mg/Kg	20	3/2/2023 12:27:01 AM
Surr: DNOP	0	69-147	S	%Rec	20	3/2/2023 12:27:01 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	2300	250		mg/Kg	50	3/3/2023 12:43:22 PM
Surr: BFB	333	37.7-212	S	%Rec	50	3/3/2023 12:43:22 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	1.2	0.98		mg/Kg	50	3/3/2023 12:43:22 PM
Toluene	30	2.5		mg/Kg	50	3/3/2023 12:43:22 PM
Ethylbenzene	25	2.5		mg/Kg	50	3/3/2023 12:43:22 PM
Xylenes, Total	120	4.9		mg/Kg	50	3/3/2023 12:43:22 PM
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	50	3/3/2023 12:43:22 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	3/1/2023 8:52:47 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302B49**
Date Reported: **3/8/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-07 2'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/24/2023 11:50:00 AM
Lab ID: 2302B49-004 **Matrix:** SOIL **Received Date:** 2/28/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	370	9.7		mg/Kg	1	3/2/2023 12:48:16 AM
Motor Oil Range Organics (MRO)	180	48		mg/Kg	1	3/2/2023 12:48:16 AM
Surr: DNOP	101	69-147		%Rec	1	3/2/2023 12:48:16 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	11	4.9		mg/Kg	1	3/3/2023 1:07:18 PM
Surr: BFB	182	37.7-212		%Rec	1	3/3/2023 1:07:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	3/3/2023 1:07:18 PM
Toluene	ND	0.049		mg/Kg	1	3/3/2023 1:07:18 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2023 1:07:18 PM
Xylenes, Total	0.22	0.098		mg/Kg	1	3/3/2023 1:07:18 PM
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	3/3/2023 1:07:18 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	3/1/2023 9:05:11 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2302B49**
Date Reported: **3/8/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-07 4'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/24/2023 11:55:00 AM
Lab ID: 2302B49-005 **Matrix:** SOIL **Received Date:** 2/28/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	22	9.5		mg/Kg	1	3/2/2023 1:09:28 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/2/2023 1:09:28 AM
Surr: DNOP	97.4	69-147		%Rec	1	3/2/2023 1:09:28 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/3/2023 5:06:00 AM
Surr: BFB	110	37.7-212		%Rec	1	3/3/2023 5:06:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	3/3/2023 5:06:00 AM
Toluene	ND	0.050		mg/Kg	1	3/3/2023 5:06:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	3/3/2023 5:06:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	3/3/2023 5:06:00 AM
Surr: 4-Bromofluorobenzene	91.3	70-130		%Rec	1	3/3/2023 5:06:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	3/1/2023 9:17:36 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302B49**
Date Reported: **3/8/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-07 6'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/24/2023 12:00:00 PM
Lab ID: 2302B49-006 **Matrix:** SOIL **Received Date:** 2/28/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	55	9.9		mg/Kg	1	3/2/2023 1:20:02 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/2/2023 1:20:02 AM
Surr: DNOP	100	69-147		%Rec	1	3/2/2023 1:20:02 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2023 5:29:19 AM
Surr: BFB	105	37.7-212		%Rec	1	3/3/2023 5:29:19 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	3/3/2023 5:29:19 AM
Toluene	ND	0.049		mg/Kg	1	3/3/2023 5:29:19 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2023 5:29:19 AM
Xylenes, Total	ND	0.097		mg/Kg	1	3/3/2023 5:29:19 AM
Surr: 4-Bromofluorobenzene	88.6	70-130		%Rec	1	3/3/2023 5:29:19 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	3/1/2023 9:30:01 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2302B49**
Date Reported: **3/8/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-07 7'
Project: Mesa Verde 7 Federal 2
Collection Date: 2/24/2023 12:05:00 PM
Lab ID: 2302B49-007 **Matrix:** SOIL **Received Date:** 2/28/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	21	10		mg/Kg	1	3/2/2023 1:30:31 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/2/2023 1:30:31 AM
Surr: DNOP	90.3	69-147		%Rec	1	3/2/2023 1:30:31 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2023 5:52:41 AM
Surr: BFB	101	37.7-212		%Rec	1	3/3/2023 5:52:41 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	3/3/2023 5:52:41 AM
Toluene	ND	0.049		mg/Kg	1	3/3/2023 5:52:41 AM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2023 5:52:41 AM
Xylenes, Total	ND	0.099		mg/Kg	1	3/3/2023 5:52:41 AM
Surr: 4-Bromofluorobenzene	87.3	70-130		%Rec	1	3/3/2023 5:52:41 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	3/2/2023 12:36:09 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 Quanitative 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#: **2302B49**

08-Mar-23

Client: Vertex Resources Services, Inc.

Project: Mesa Verde 7 Federal 2

Sample ID: **MB-73447**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **73447**	RunNo: **94974**							
Prep Date: **3/1/2023**	Analysis Date: **3/1/2023**	SeqNo: **3433828**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-73447**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **73447**	RunNo: **94974**							
Prep Date: **3/1/2023**	Analysis Date: **3/1/2023**	SeqNo: **3433829**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.3	90	110			

Sample ID: **MB-73467**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **73467**	RunNo: **94974**							
Prep Date: **3/1/2023**	Analysis Date: **3/1/2023**	SeqNo: **3433861**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-73467**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **73467**	RunNo: **94974**							
Prep Date: **3/1/2023**	Analysis Date: **3/1/2023**	SeqNo: **3433862**	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 Quanitative 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#: **2302B49**

08-Mar-23

Client: Vertex Resources Services, Inc.

Project: Mesa Verde 7 Federal 2

Sample ID: **MB-73436**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **73436**	RunNo: **94952**
Prep Date: **2/28/2023**	Analysis Date: **3/1/2023**	SeqNo: **3433068** 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	9.2		10.00		92.3	69	147			

Sample ID: **LCS-73436**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **73436**	RunNo: **94952**
Prep Date: **2/28/2023**	Analysis Date: **3/1/2023**	SeqNo: **3433069** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	10	50.00	0	80.8	61.9	130			
Surr: DNOP	4.6		5.000		92.6	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 Quanitative 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#: **2302B49**

08-Mar-23

Client: Vertex Resources Services, Inc.

Project: Mesa Verde 7 Federal 2

Sample ID: **2.5ug gro lcs** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **GS94977** RunNo: **94977**
Prep Date: Analysis Date: **3/2/2023** SeqNo: **3433961** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2000		1000		199	37.7	212			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **GS94977** RunNo: **94977**
Prep Date: Analysis Date: **3/2/2023** SeqNo: **3433962** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		103	37.7	212			

Sample ID: **lcs-73430** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **73430** RunNo: **94977**
Prep Date: **2/28/2023** Analysis Date: **3/2/2023** SeqNo: **3435300** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.6	72.3	137			
Surr: BFB	2000		1000		197	37.7	212			

Sample ID: **MB-73430** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **73430** RunNo: **94977**
Prep Date: **2/28/2023** Analysis Date: **3/2/2023** SeqNo: **3435301** 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	1000		1000		101	37.7	212			

Sample ID: **lcs-73374** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **73374** RunNo: **95021**
Prep Date: **2/24/2023** Analysis Date: **3/3/2023** SeqNo: **3435872** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2000		1000		197	37.7	212			

Sample ID: **mb-73374** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **73374** RunNo: **95021**
Prep Date: **2/24/2023** Analysis Date: **3/3/2023** SeqNo: **3435873** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		103	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 Quanitative 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#: **2302B49**

08-Mar-23

Client: Vertex Resources Services, Inc.

Project: Mesa Verde 7 Federal 2

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **R94977**	RunNo: **94977**
Prep Date:	Analysis Date: **3/2/2023**	SeqNo: **3433969** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.93		1.000		92.8	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **R94977**	RunNo: **94977**
Prep Date:	Analysis Date: **3/2/2023**	SeqNo: **3433970** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.92		1.000		91.8	70	130			

Sample ID: **LCS-73430**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **73430**	RunNo: **94977**
Prep Date: **2/28/2023**	Analysis Date: **3/2/2023**	SeqNo: **3435356** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.025	1.000	0	81.9	80	120			
Toluene	0.85	0.050	1.000	0	85.3	80	120			
Ethylbenzene	0.84	0.050	1.000	0	84.1	80	120			
Xylenes, Total	2.5	0.10	3.000	0	84.8	80	120			
Surr: 4-Bromofluorobenzene	0.93		1.000		93.5	70	130			

Sample ID: **MB-73430**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **73430**	RunNo: **94977**
Prep Date: **2/28/2023**	Analysis Date: **3/2/2023**	SeqNo: **3435357** 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	0.91		1.000		91.4	70	130			

Sample ID: **LCS-73374**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **73374**	RunNo: **95021**
Prep Date: **2/24/2023**	Analysis Date: **3/3/2023**	SeqNo: **3435881** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		94.6	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2302B49**

08-Mar-23

Client: Vertex Resources Services, Inc.

Project: Mesa Verde 7 Federal 2

Sample ID: **mb-73374**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **73374**	RunNo: **95021**
Prep Date: **2/24/2023**	Analysis Date: **3/3/2023**	SeqNo: **3435882** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.93		1.000		93.1	70	130			

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: Vertex Resources Services, Inc.

Work Order Number: 2302B49

RcptNo: 1

Received By: Cheyenne Cason 2/28/2023 8:00:00 AM

Completed By: Sean Livingston 2/28/2023 8:31:09 AM

Reviewed By: JK 2-28-23

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: KPC 2-28-23

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	0.1	Good	Not Present	YOGI		

Chain-of-Custody Record

Client: Devon (Vertex)

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 4/8 Hr

Project Name: Mesa Verde 7 Federal 2

Project #: 21E-02816

Project Manager: Kent Stallings

Sampler: J. Reta, L. Pullman

On Ice: ☑ Yes ☐ No Yogi

# of Coolers: 1

Cooler Temp(Including CF): 0.0 +0.1 = 0.1 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2302849	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
02/24/23	10:40	Soil	BH23-05 10'	4oz Jar	Ice	001										
	10:50		BH23-05 12'			002										
	11:45		BH23-07 0'			003										
	11:50		BH23-07 2'			004										
	11:55		BH23-07 4'			005										
	12:00		BH23-07 6'			006										
	12:05		BH23-07 7'			007										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
02/24/23	16:10	J. Reta				
2/27/23	1900				2/27/23	1900
			CMC courier		2/28/23	0800

Remarks: Direct Bill to Devon
cc: Jacob Reta

Devon/Harvard.

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 10, 2023

Kent Stallings

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX

RE: Mesa Verde 7 Federal 2 OrderNo.: 2303177

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 6 sample(s) on 3/3/2023 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2303177**
Date Reported: **3/10/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-08 0'
Project: Mesa Verde 7 Federal 2
Collection Date: 3/1/2023 10:00:00 AM
Lab ID: 2303177-001 **Matrix:** SOIL **Received Date:** 3/3/2023 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)	91	10		mg/Kg	1	3/7/2023 1:35:21 PM
Motor Oil Range Organics (MRO)	210	50		mg/Kg	1	3/7/2023 1:35:21 PM
Surr: DNOP	102	69-147		%Rec	1	3/7/2023 1:35:21 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/6/2023 5:07:00 PM
Surr: BFB	88.4	37.7-212		%Rec	1	3/6/2023 5:07:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	3/6/2023 5:07:00 PM
Toluene	ND	0.050		mg/Kg	1	3/6/2023 5:07:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/6/2023 5:07:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/6/2023 5:07:00 PM
Surr: 4-Bromofluorobenzene	88.4	70-130		%Rec	1	3/6/2023 5:07:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	3/6/2023 1:22:16 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2303177**
Date Reported: **3/10/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-08 2'
Project: Mesa Verde 7 Federal 2 **Collection Date:** 3/1/2023 10:05:00 AM
Lab ID: 2303177-002 **Matrix:** SOIL **Received Date:** 3/3/2023 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)	1300	98		mg/Kg	10	3/6/2023 9:57:09 PM
Motor Oil Range Organics (MRO)	1600	490		mg/Kg	10	3/6/2023 9:57:09 PM
Surr: DNOP	0	69-147	S	%Rec	10	3/6/2023 9:57:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/6/2023 5:29:00 PM
Surr: BFB	87.8	37.7-212		%Rec	1	3/6/2023 5:29:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	3/6/2023 5:29:00 PM
Toluene	ND	0.049		mg/Kg	1	3/6/2023 5:29:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/6/2023 5:29:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/6/2023 5:29:00 PM
Surr: 4-Bromofluorobenzene	90.7	70-130		%Rec	1	3/6/2023 5:29:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	3/6/2023 1:34:41 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2303177**
Date Reported: **3/10/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-08 4'
Project: Mesa Verde 7 Federal 2 **Collection Date:** 3/1/2023 10:10:00 AM
Lab ID: 2303177-003 **Matrix:** SOIL **Received Date:** 3/3/2023 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	9.3		mg/Kg	1	3/6/2023 10:18:19 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/6/2023 10:18:19 PM
Surr: DNOP	95.1	69-147		%Rec	1	3/6/2023 10:18:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/6/2023 5:51:00 PM
Surr: BFB	93.8	37.7-212		%Rec	1	3/6/2023 5:51:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	3/6/2023 5:51:00 PM
Toluene	ND	0.048		mg/Kg	1	3/6/2023 5:51:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/6/2023 5:51:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/6/2023 5:51:00 PM
Surr: 4-Bromofluorobenzene	92.1	70-130		%Rec	1	3/6/2023 5:51:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	3/6/2023 1:47:05 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2303177**
Date Reported: **3/10/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-09 0'
Project: Mesa Verde 7 Federal 2 **Collection Date:** 3/1/2023 10:30:00 AM
Lab ID: 2303177-004 **Matrix:** SOIL **Received Date:** 3/3/2023 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	9.7		mg/Kg	1	3/6/2023 10:28:57 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/6/2023 10:28:57 PM
Surr: DNOP	95.5	69-147		%Rec	1	3/6/2023 10:28:57 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/6/2023 6:12:00 PM
Surr: BFB	98.3	37.7-212		%Rec	1	3/6/2023 6:12:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	3/6/2023 6:12:00 PM
Toluene	ND	0.049		mg/Kg	1	3/6/2023 6:12:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/6/2023 6:12:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/6/2023 6:12:00 PM
Surr: 4-Bromofluorobenzene	96.2	70-130		%Rec	1	3/6/2023 6:12:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	3/6/2023 2:24:18 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2303177**
Date Reported: **3/10/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-09 2'
Project: Mesa Verde 7 Federal 2 **Collection Date:** 3/1/2023 10:35:00 AM
Lab ID: 2303177-005 **Matrix:** SOIL **Received Date:** 3/3/2023 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	9.2		mg/Kg	1	3/6/2023 10:39:34 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/6/2023 10:39:34 PM
Surr: DNOP	97.6	69-147		%Rec	1	3/6/2023 10:39:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/6/2023 6:34:00 PM
Surr: BFB	90.5	37.7-212		%Rec	1	3/6/2023 6:34:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	3/6/2023 6:34:00 PM
Toluene	ND	0.048		mg/Kg	1	3/6/2023 6:34:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/6/2023 6:34:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/6/2023 6:34:00 PM
Surr: 4-Bromofluorobenzene	91.9	70-130		%Rec	1	3/6/2023 6:34:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	3/6/2023 2:36:43 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2303177**
Date Reported: **3/10/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-09 4'
Project: Mesa Verde 7 Federal 2 **Collection Date:** 3/1/2023 10:40:00 AM
Lab ID: 2303177-006 **Matrix:** SOIL **Received Date:** 3/3/2023 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	9.2		mg/Kg	1	3/6/2023 10:50:10 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/6/2023 10:50:10 PM
Surr: DNOP	95.7	69-147		%Rec	1	3/6/2023 10:50:10 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/6/2023 6:56:00 PM
Surr: BFB	90.3	37.7-212		%Rec	1	3/6/2023 6:56:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	3/6/2023 6:56:00 PM
Toluene	ND	0.047		mg/Kg	1	3/6/2023 6:56:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/6/2023 6:56:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/6/2023 6:56:00 PM
Surr: 4-Bromofluorobenzene	94.2	70-130		%Rec	1	3/6/2023 6:56:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	ND	60		mg/Kg	20	3/6/2023 2:49:07 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 Quanitative 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#: **2303177**
10-Mar-23

Client: Vertex Resources Services, Inc.
Project: Mesa Verde 7 Federal 2

Sample ID: **MB-73517**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **73517**	RunNo: **95055**							
Prep Date: **3/6/2023**	Analysis Date: **3/6/2023**	SeqNo: **3437412**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-73517**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **73517**	RunNo: **95055**							
Prep Date: **3/6/2023**	Analysis Date: **3/6/2023**	SeqNo: **3437413**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.2	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 Quanitative 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#: **2303177**
10-Mar-23

Client: Vertex Resources Services, Inc.
Project: Mesa Verde 7 Federal 2

Sample ID: **LCS-73501** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **73501** RunNo: **95068**
Prep Date: **3/3/2023** Analysis Date: **3/6/2023** SeqNo: **3438072** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	10	50.00	0	80.8	61.9	130			
Surr: DNOP	4.4		5.000		88.1	69	147			

Sample ID: **MB-73501** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **73501** RunNo: **95068**
Prep Date: **3/3/2023** Analysis Date: **3/6/2023** SeqNo: **3438075** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.0		10.00		89.5	69	147			

Sample ID: **LCS-73532** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **73532** RunNo: **95077**
Prep Date: **3/6/2023** Analysis Date: **3/7/2023** SeqNo: **3438281** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		87.7	69	147			

Sample ID: **MB-73532** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **73532** RunNo: **95077**
Prep Date: **3/6/2023** Analysis Date: **3/7/2023** SeqNo: **3438285** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.9		10.00		89.2	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 Quanitative 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#: **2303177**
10-Mar-23

Client: Vertex Resources Services, Inc.
Project: Mesa Verde 7 Federal 2

Sample ID: **lcs-73497** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **73497** RunNo: **95057**
Prep Date: **3/3/2023** Analysis Date: **3/6/2023** SeqNo: **3437771** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	90.0	70	130			
Surr: BFB	2000		1000		197	37.7	212			

Sample ID: **MB-73497** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **73497** RunNo: **95057**
Prep Date: **3/3/2023** Analysis Date: **3/6/2023** SeqNo: **3437780** 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	930		1000		93.0	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 Quanitative 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#: **2303177**
10-Mar-23

Client: Vertex Resources Services, Inc.
Project: Mesa Verde 7 Federal 2

Sample ID: **LCS-73497** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **73497** RunNo: **95057**
Prep Date: **3/3/2023** Analysis Date: **3/6/2023** SeqNo: **3437776** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	82.8	80	120			
Toluene	0.83	0.050	1.000	0	82.7	80	120			
Ethylbenzene	0.81	0.050	1.000	0	81.4	80	120			
Xylenes, Total	2.4	0.10	3.000	0	81.2	80	120			
Surr: 4-Bromofluorobenzene	0.91		1.000		91.0	70	130			

Sample ID: **MB-73497** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **73497** RunNo: **95057**
Prep Date: **3/3/2023** Analysis Date: **3/6/2023** SeqNo: **3437779** 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	0.91		1.000		90.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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

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: Vertex Resources Services, Inc.

Work Order Number: 2303177

RcptNo: 1

Received By: Tracy Casarrubias 3/3/2023 7:30:00 AM

Completed By: Sean Livingston 3/3/2023 8:10:25 AM

Reviewed By: JH 3-3-23

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: KPG 3.3.23

3.3.23

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	5.6	Good	Not Present	Morty		

Chain-of-Custody Record

Client: Devon (Vertex)

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 48 Hr

Project Name: Mesa Verde 7 Federal 2

Project #: 21E-02816

Project Manager: Kent Stallings

Sampler: J. Reta

On Ice: ☒ Yes ☐ No many

# of Coolers: 1

Cooler Temp (Including CF): 5.6-0=5.6 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2303177	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
03/01/2023	10:00	Soil	BH23-08 0'	4oz Jar	Ice	001										
	10:05		BH23-08 2'			002										
	10:10		BH23-08 4'			003										
	10:30		BH23-09 0'			004										
	10:35		BH23-09 2'			005										
	10:40		BH23-09 4'			006										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
03/01/2023	18:10	J. Reta			3/2/23	915
3/2/23	1900			courier	3/3/23	7:30

Remarks: Direct Bill to Devon
CC: Jacob Reta

Devon/Harvard

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

April 19, 2023

Kent Stallings

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX

RE: Mesa Verde 7 Federal 002 OrderNo.: 2304661

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 12 sample(s) on 4/15/2023 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2304661**
Date Reported: **4/19/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-10 0'
Project: Mesa Verde 7 Federal 002
Collection Date: 4/12/2023 7:50:00 AM
Lab ID: 2304661-001 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	4/18/2023 10:37:30 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/18/2023 10:37:30 AM
Surr: DNOP	92.9	69-147		%Rec	1	4/18/2023 10:37:30 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/18/2023 12:18:52 PM
Surr: BFB	93.9	37.7-212		%Rec	1	4/18/2023 12:18:52 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	4/18/2023 12:18:52 PM
Toluene	ND	0.050		mg/Kg	1	4/18/2023 12:18:52 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/18/2023 12:18:52 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/18/2023 12:18:52 PM
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	4/18/2023 12:18:52 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/18/2023 11:42:43 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2304661**
Date Reported: **4/19/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-10 2'
Project: Mesa Verde 7 Federal 002 **Collection Date:** 4/12/2023 7:55:00 AM
Lab ID: 2304661-002 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 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	4/18/2023 11:09:11 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/18/2023 11:09:11 AM
Surr: DNOP	94.3	69-147		%Rec	1	4/18/2023 11:09:11 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/18/2023 1:29:17 PM
Surr: BFB	99.2	37.7-212		%Rec	1	4/18/2023 1:29:17 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	4/18/2023 1:29:17 PM
Toluene	ND	0.048		mg/Kg	1	4/18/2023 1:29:17 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/18/2023 1:29:17 PM
Xylenes, Total	ND	0.096		mg/Kg	1	4/18/2023 1:29:17 PM
Surr: 4-Bromofluorobenzene	95.2	70-130		%Rec	1	4/18/2023 1:29:17 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/18/2023 12:19:43 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2304661**
Date Reported: **4/19/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-10 4'
Project: Mesa Verde 7 Federal 002 **Collection Date:** 4/12/2023 8:00:00 AM
Lab ID: 2304661-003 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 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	4/18/2023 11:22:05 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/18/2023 11:22:05 AM
Surr: DNOP	115	69-147		%Rec	1	4/18/2023 11:22:05 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/18/2023 2:39:30 PM
Surr: BFB	82.0	37.7-212		%Rec	1	4/18/2023 2:39:30 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	4/18/2023 2:39:30 PM
Toluene	ND	0.049		mg/Kg	1	4/18/2023 2:39:30 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/18/2023 2:39:30 PM
Xylenes, Total	ND	0.098		mg/Kg	1	4/18/2023 2:39:30 PM
Surr: 4-Bromofluorobenzene	91.4	70-130		%Rec	1	4/18/2023 2:39:30 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/18/2023 12:32:04 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2304661**
Date Reported: **4/19/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-11 0'
Project: Mesa Verde 7 Federal 002 **Collection Date:** 4/12/2023 8:10:00 AM
Lab ID: 2304661-004 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 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	4/18/2023 11:32:42 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/18/2023 11:32:42 AM
Surr: DNOP	91.8	69-147		%Rec	1	4/18/2023 11:32:42 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/18/2023 3:02:58 PM
Surr: BFB	107	37.7-212		%Rec	1	4/18/2023 3:02:58 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	4/18/2023 3:02:58 PM
Toluene	ND	0.049		mg/Kg	1	4/18/2023 3:02:58 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/18/2023 3:02:58 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/18/2023 3:02:58 PM
Surr: 4-Bromofluorobenzene	95.6	70-130		%Rec	1	4/18/2023 3:02:58 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/18/2023 12:44:25 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2304661**
Date Reported: **4/19/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-11 2'
Project: Mesa Verde 7 Federal 002 **Collection Date:** 4/12/2023 8:15:00 AM
Lab ID: 2304661-005 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 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	4/18/2023 11:43:22 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/18/2023 11:43:22 AM
Surr: DNOP	111	69-147		%Rec	1	4/18/2023 11:43:22 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/18/2023 3:26:18 PM
Surr: BFB	93.4	37.7-212		%Rec	1	4/18/2023 3:26:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	4/18/2023 3:26:18 PM
Toluene	ND	0.047		mg/Kg	1	4/18/2023 3:26:18 PM
Ethylbenzene	ND	0.047		mg/Kg	1	4/18/2023 3:26:18 PM
Xylenes, Total	ND	0.093		mg/Kg	1	4/18/2023 3:26:18 PM
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	4/18/2023 3:26:18 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/18/2023 12:56:45 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2304661**
Date Reported: **4/19/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-11 4'
Project: Mesa Verde 7 Federal 002
Collection Date: 4/12/2023 8:20:00 AM
Lab ID: 2304661-006 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 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	4/18/2023 11:54:03 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/18/2023 11:54:03 AM
Surr: DNOP	108	69-147		%Rec	1	4/18/2023 11:54:03 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/18/2023 3:49:39 PM
Surr: BFB	94.1	37.7-212		%Rec	1	4/18/2023 3:49:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	4/18/2023 3:49:39 PM
Toluene	ND	0.048		mg/Kg	1	4/18/2023 3:49:39 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/18/2023 3:49:39 PM
Xylenes, Total	ND	0.096		mg/Kg	1	4/18/2023 3:49:39 PM
Surr: 4-Bromofluorobenzene	94.3	70-130		%Rec	1	4/18/2023 3:49:39 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	120	60		mg/Kg	20	4/18/2023 1:09:06 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2304661**
Date Reported: **4/19/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-12 0'
Project: Mesa Verde 7 Federal 002 **Collection Date:** 4/12/2023 8:25:00 AM
Lab ID: 2304661-007 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 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	4/18/2023 12:04:45 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/18/2023 12:04:45 PM
Surr: DNOP	113	69-147		%Rec	1	4/18/2023 12:04:45 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/18/2023 4:13:01 PM
Surr: BFB	86.8	37.7-212		%Rec	1	4/18/2023 4:13:01 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	4/18/2023 4:13:01 PM
Toluene	ND	0.048		mg/Kg	1	4/18/2023 4:13:01 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/18/2023 4:13:01 PM
Xylenes, Total	ND	0.096		mg/Kg	1	4/18/2023 4:13:01 PM
Surr: 4-Bromofluorobenzene	92.6	70-130		%Rec	1	4/18/2023 4:13:01 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/18/2023 1:21:26 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2304661**
Date Reported: **4/19/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-12 2'
Project: Mesa Verde 7 Federal 002 **Collection Date:** 4/12/2023 8:30:00 AM
Lab ID: 2304661-008 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/18/2023 12:15:29 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/18/2023 12:15:29 PM
Surr: DNOP	132	69-147		%Rec	1	4/18/2023 12:15:29 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/18/2023 4:36:26 PM
Surr: BFB	96.0	37.7-212		%Rec	1	4/18/2023 4:36:26 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	4/18/2023 4:36:26 PM
Toluene	ND	0.050		mg/Kg	1	4/18/2023 4:36:26 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/18/2023 4:36:26 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/18/2023 4:36:26 PM
Surr: 4-Bromofluorobenzene	94.3	70-130		%Rec	1	4/18/2023 4:36:26 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	61		mg/Kg	20	4/18/2023 1:33:47 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2304661**
Date Reported: **4/19/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-12 4'
Project: Mesa Verde 7 Federal 002 **Collection Date:** 4/12/2023 8:35:00 AM
Lab ID: 2304661-009 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 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	4/18/2023 12:28:17 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/18/2023 12:28:17 PM
Surr: DNOP	92.5	69-147		%Rec	1	4/18/2023 12:28:17 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/18/2023 4:59:46 PM
Surr: BFB	88.6	37.7-212		%Rec	1	4/18/2023 4:59:46 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	4/18/2023 4:59:46 PM
Toluene	ND	0.049		mg/Kg	1	4/18/2023 4:59:46 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/18/2023 4:59:46 PM
Xylenes, Total	ND	0.098		mg/Kg	1	4/18/2023 4:59:46 PM
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	4/18/2023 4:59:46 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	59		mg/Kg	20	4/18/2023 1:46:08 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2304661**
Date Reported: **4/19/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-13 0'
Project: Mesa Verde 7 Federal 002 **Collection Date:** 4/12/2023 8:45:00 AM
Lab ID: 2304661-010 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 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	4/18/2023 12:38:57 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/18/2023 12:38:57 PM
Surr: DNOP	118	69-147		%Rec	1	4/18/2023 12:38:57 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/18/2023 5:23:18 PM
Surr: BFB	106	37.7-212		%Rec	1	4/18/2023 5:23:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	4/18/2023 5:23:18 PM
Toluene	ND	0.048		mg/Kg	1	4/18/2023 5:23:18 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/18/2023 5:23:18 PM
Xylenes, Total	ND	0.096		mg/Kg	1	4/18/2023 5:23:18 PM
Surr: 4-Bromofluorobenzene	96.0	70-130		%Rec	1	4/18/2023 5:23:18 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/18/2023 2:47:52 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2304661**
Date Reported: **4/19/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-13 2'
Project: Mesa Verde 7 Federal 002 **Collection Date:** 4/12/2023 8:50:00 AM
Lab ID: 2304661-011 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/18/2023 12:49:43 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/18/2023 12:49:43 PM
Surr: DNOP	89.5	69-147		%Rec	1	4/18/2023 12:49:43 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/18/2023 6:09:56 PM
Surr: BFB	92.0	37.7-212		%Rec	1	4/18/2023 6:09:56 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	4/18/2023 6:09:56 PM
Toluene	ND	0.047		mg/Kg	1	4/18/2023 6:09:56 PM
Ethylbenzene	ND	0.047		mg/Kg	1	4/18/2023 6:09:56 PM
Xylenes, Total	ND	0.095		mg/Kg	1	4/18/2023 6:09:56 PM
Surr: 4-Bromofluorobenzene	93.4	70-130		%Rec	1	4/18/2023 6:09:56 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/18/2023 3:00:12 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2304661**
Date Reported: **4/19/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-13 4'
Project: Mesa Verde 7 Federal 002 **Collection Date:** 4/12/2023 8:55:00 AM
Lab ID: 2304661-012 **Matrix:** SOIL **Received Date:** 4/15/2023 8:40:00 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	4/18/2023 1:00:28 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/18/2023 1:00:28 PM
Surr: DNOP	95.0	69-147		%Rec	1	4/18/2023 1:00:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/18/2023 6:33:27 PM
Surr: BFB	89.8	37.7-212		%Rec	1	4/18/2023 6:33:27 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	4/18/2023 6:33:27 PM
Toluene	ND	0.050		mg/Kg	1	4/18/2023 6:33:27 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/18/2023 6:33:27 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/18/2023 6:33:27 PM
Surr: 4-Bromofluorobenzene	93.3	70-130		%Rec	1	4/18/2023 6:33:27 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	4/18/2023 3:12:33 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 Quanitative 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#: **2304661**
19-Apr-23

Client: Vertex Resources Services, Inc.
Project: Mesa Verde 7 Federal 002

Sample ID: **MB-74385**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **74385**	RunNo: **96129**							
Prep Date: **4/18/2023**	Analysis Date: **4/18/2023**	SeqNo: **3481207**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-74385**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **74385**	RunNo: **96129**							
Prep Date: **4/18/2023**	Analysis Date: **4/18/2023**	SeqNo: **3481208**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.3	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2304661**
19-Apr-23

Client: Vertex Resources Services, Inc.
Project: Mesa Verde 7 Federal 002

Sample ID: **2304661-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-10 0'** Batch ID: **74349** RunNo: **96131**
Prep Date: **4/17/2023** Analysis Date: **4/18/2023** SeqNo: **3481314** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.8	49.21	0	88.6	54.2	135			
Surr: DNOP	5.3		4.921		107	69	147			

Sample ID: **2304661-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-10 0'** Batch ID: **74349** RunNo: **96131**
Prep Date: **4/17/2023** Analysis Date: **4/18/2023** SeqNo: **3481315** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.6	47.80	0	87.3	54.2	135	4.44	29.2	
Surr: DNOP	4.7		4.780		98.4	69	147	0	0	

Sample ID: **LCS-74349** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **74349** RunNo: **96131**
Prep Date: **4/17/2023** Analysis Date: **4/18/2023** SeqNo: **3481379** 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	82.0	61.9	130			
Surr: DNOP	4.6		5.000		92.7	69	147			

Sample ID: **LCS-74375** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **74375** RunNo: **96131**
Prep Date: **4/17/2023** Analysis Date: **4/18/2023** SeqNo: **3481381** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		85.4	69	147			

Sample ID: **MB-74349** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **74349** RunNo: **96131**
Prep Date: **4/17/2023** Analysis Date: **4/18/2023** SeqNo: **3481383** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		101	69	147			

Sample ID: **MB-74375** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **74375** RunNo: **96131**
Prep Date: **4/17/2023** Analysis Date: **4/18/2023** SeqNo: **3481385** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative 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#: **2304661**
19-Apr-23

Client: Vertex Resources Services, Inc.
Project: Mesa Verde 7 Federal 002

Sample ID: **MB-74375** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **74375** RunNo: **96131**
Prep Date: **4/17/2023** Analysis Date: **4/18/2023** SeqNo: **3481385** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.7		10.00		86.6	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 Quanitative 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#: **2304661**
19-Apr-23

Client: Vertex Resources Services, Inc.
Project: Mesa Verde 7 Federal 002

Sample ID: **lcs-74359**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **74359**	RunNo: **96123**
Prep Date: **4/17/2023**	Analysis Date: **4/18/2023**	SeqNo: **3480902** 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	93.7	70	130			
Surr: BFB	5100		1000		507	37.7	212			S

Sample ID: **mb-74359**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **74359**	RunNo: **96123**
Prep Date: **4/17/2023**	Analysis Date: **4/18/2023**	SeqNo: **3480903** 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	880		1000		87.5	37.7	212			

Sample ID: **2304661-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-10 0'**	Batch ID: **74359**	RunNo: **96123**
Prep Date: **4/17/2023**	Analysis Date: **4/18/2023**	SeqNo: **3480905** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	24.85	0	104	70	130			
Surr: BFB	5800		994.0		584	37.7	212			S

Sample ID: **2304661-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-10 0'**	Batch ID: **74359**	RunNo: **96123**
Prep Date: **4/17/2023**	Analysis Date: **4/18/2023**	SeqNo: **3480906** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	24.90	0	101	70	130	2.77	20	
Surr: BFB	5700		996.0		571	37.7	212	0	0	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of 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#: **2304661**
19-Apr-23

Client: Vertex Resources Services, Inc.
Project: Mesa Verde 7 Federal 002

Sample ID: **LCS-74359** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **74359** RunNo: **96123**
Prep Date: **4/17/2023** Analysis Date: **4/18/2023** SeqNo: **3480930** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	1.000	0	83.7	80	120			
Toluene	0.85	0.050	1.000	0	85.1	80	120			
Ethylbenzene	0.86	0.050	1.000	0	85.6	80	120			
Xylenes, Total	2.6	0.10	3.000	0	86.8	80	120			
Surr: 4-Bromofluorobenzene	0.94		1.000		94.2	70	130			

Sample ID: **mb-74359** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **74359** RunNo: **96123**
Prep Date: **4/17/2023** Analysis Date: **4/18/2023** SeqNo: **3480931** 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		92.0	70	130			

Sample ID: **2304661-002ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-10 2'** Batch ID: **74359** RunNo: **96123**
Prep Date: **4/17/2023** Analysis Date: **4/18/2023** SeqNo: **3480934** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.024	0.9588	0	94.4	68.8	120			
Toluene	0.93	0.048	0.9588	0.01734	94.9	73.6	124			
Ethylbenzene	0.94	0.048	0.9588	0	98.3	72.7	129			
Xylenes, Total	2.9	0.096	2.876	0	99.5	75.7	126			
Surr: 4-Bromofluorobenzene	0.90		0.9588		94.0	70	130			

Sample ID: **2304661-002amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-10 2'** Batch ID: **74359** RunNo: **96123**
Prep Date: **4/17/2023** Analysis Date: **4/18/2023** SeqNo: **3480935** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.024	0.9597	0	93.0	68.8	120	1.43	20	
Toluene	0.91	0.048	0.9597	0.01734	93.4	73.6	124	1.41	20	
Ethylbenzene	0.93	0.048	0.9597	0	96.8	72.7	129	1.46	20	
Xylenes, Total	2.8	0.096	2.879	0	98.0	75.7	126	1.46	20	
Surr: 4-Bromofluorobenzene	0.93		0.9597		97.0	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 Quanitative 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

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: Vertex Resources Services, Inc.

Work Order Number: 2304661

RcptNo: 1

Received By: Cheyenne Cason 4/15/2023 8:40:00 AM

Completed By: Cheyenne Cason 4/15/2023 9:37:04 AM

Reviewed By: JN 4/17/23

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

MB 4/17/23

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	1.0	Good	Not Present	Morty		

Chain-of-Custody Record

Client: **Vertex**

(direct bill to Devon)

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☐ Standard ☒ Rush 48-hr

Project Name:

Mesa Verde 7 Federal #002

Project #:

22E-02816-05

Project Manager:

Kent Stallings

kstallings@vertex.ca

Sampler: L. Pullman

On Ice: ☒ Yes ☐ No Mostly

# of Coolers: 1

Cooler Temp (including CF): 1.1-0.1=+1.0 via 4/14/23

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2304661	(BTEX) MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
04/12/23	7:50	Soil	BH23-10 0'	1, 4oz jar		001	X	X					X			
04/12/23	7:55	Soil	BH23-10 2'	1, 4oz jar		002	X	X					X			
04/12/23	8:00	Soil	BH23-10 4'	1, 4oz jar		003	X	X					X			
04/12/23	8:10	Soil	BH23-11 0'	1, 4oz jar		004	X	X					X			
04/12/23	8:15	Soil	BH23-11 2'	1, 4oz jar		005	X	X					X			
04/12/23	8:20	Soil	BH23-11 4'	1, 4oz jar		006	X	X					X			
04/12/23	8:25	Soil	BH23-12 0'	1, 4oz jar		007	X	X					X			
04/12/23	8:30	Soil	BH23-12 2'	1, 4oz jar		008	X	X					X			
04/12/23	8:35	Soil	BH23-12 4'	1, 4oz jar		009	X	X					X			
04/12/23	8:45	Soil	BH23-13 0'	1, 4oz jar		010	X	X					X			
04/12/23	8:50	Soil	BH23-13 2'	1, 4oz jar		011	X	X					X			
04/12/23	8:55	Soil	BH23-13 4'	1, 4oz jar		012	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
4-14-23	07:00				4/14/23	700
4/14/23	1900				4/15/23	0540

Remarks:

Direct bill to Devon, Dale Woodall

cc. kstallings@vertex.ca for Final Report

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

ATTACHMENT 4

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	2/22/2023
Site Location Name:	Mesa Verde 7 Federal 2 (spill at Mesa Verde 7 Fed 1 Battery)	Report Run Date:	2/22/2023 11:17 PM
Client Contact Name:	Wes Matthews	API #:	30-025-32399
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	2/22/2023 10:19 AM
Departed Site	2/22/2023 4:30 PM

Field Notes

15:26 Arrived on site and filled out JSA

15:27 Walked around the site to see where I will place Boreholes for site delineation

15:30 At 10:30 I began digging Boreholes 1-4 at 0', 2', and 4' depths

15:31 All samples collected were field screened on EC meter

All samples are clean on Chlorides

15:32 All samples were field screened on Petroflag unit

BH23-03 at 0' and all samples for BH24-04 are Hot for TPH

15:34 All samples have been jarred and placed on ice.

All samples are ready for lab

15:35 Upon arrival I noticed oil staining throughout the tank battery.

Daily Site Visit Report

Next Steps & Recommendations

1 Continue site delineation

Daily Site Visit Report

Site Photos

Viewing Direction: East

BH23-01
Facing East

Viewing Direction: Southeast

BH23-02
Facing southeast

Viewing Direction: West

BH23-03
Facing West

Viewing Direction: North

BH23-04
Facing North

Daily Site Visit Report

Viewing Direction: East

Visible staining on North side of tanks

Facing East

Viewing Direction: East

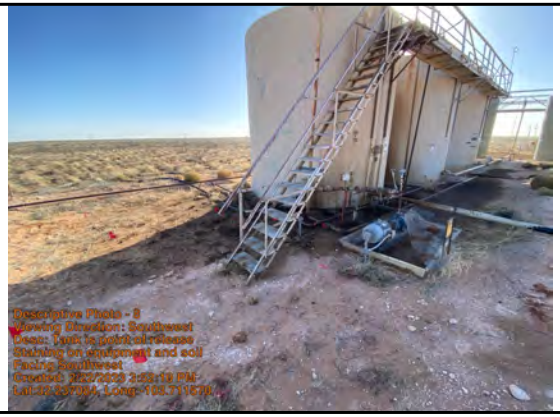
South side of tanks
Facing East

Viewing Direction: Northwest

Staining on East side of tanks

Facing Northwest

Viewing Direction: Southwest



Tank is point of release
Staining on equipment and soil

Facing Southwest

Daily Site Visit Report

Viewing Direction: Southeast

Stained equipment Facing Southeast

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Jacob Reta

Signature:

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	2/23/2023
Site Location Name:	Mesa Verde 7 Federal 2 (spill at Mesa Verde 7 Fed 1 Battery)	Report Run Date:	2/23/2023 10:40 PM
Client Contact Name:	Wes Matthews	API #:	30-025-32399
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	2/23/2023 9:49 AM
Departed Site	2/23/2023 3:30 PM

Field Notes

14:49 Arrived on site and filled out JSA

14:49 Today's focus was to continue site delineation with Vertical samples

14:50 At 10:30 I began digging BH23-05 for vertical sampling

14:51 Samples were collected at 0', 2', 4', 6',and 8' depths

14:52 At 11:30 I placed another Borehole (Bh23-06) on the south side of the tanks

14:52 Samples were collected from BH23-06 at 0', 2',and 4' depths

14:52 All samples were field screened on EC meter

All samples are clean on chlorides

Daily Site Visit Report

14:55 All samples were Field screened on Petroflag unit

BH23-04 at 6’ and 8’ are clean on TPH

All BH23-05 samples are hot on TPH

All BH23-06 samples are hot on TPH

14:54 All samples have been jarred and ready for lab

Next Steps & Recommendations

1 Continue vertical delineation

Daily Site Visit Report

Site Photos

Viewing Direction: South

BH23-05
Facing South

Viewing Direction: East

Overview of South side of tanks
Facing East

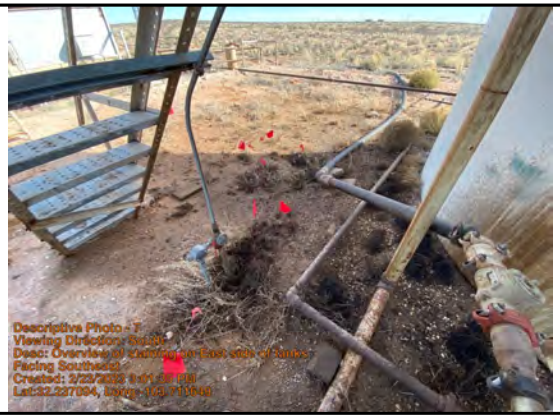
Viewing Direction: West

BH23-04
Facing West

Viewing Direction: West

BH23-06
Facing West

Daily Site Visit Report

Viewing Direction: Northwest	**Viewing Direction**: Southwest
	
Overview of site Facing Northwest	Overview of site Facing Southwest
Viewing Direction: West	**Viewing Direction**: South
	
Overview or staining on North side of tanks Facing West	Overview of staining on East side of tanks Facing Southeast

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: Southeast
	
Overview of staining on East side of tanks Facing east	Overview of north Side of tanks Facing Southeast

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Jacob Reta

Signature:

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	2/24/2023
Site Location Name:	Mesa Verde 7 Federal 2 (spill at Mesa Verde 7 Fed 1 Battery)	Report Run Date:	2/25/2023 12:00 AM
Client Contact Name:	Wes Matthews	API #:	30-025-32399
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	2/24/2023 9:11 AM
Departed Site	2/24/2023 3:45 PM

Field Notes

13:56 Arrived on site with L. Pullman and signed JSA

14:10 Today's focus is to continue site delineation with vertical samples

14:01 At 10:40 Pullman and I began to further delineate BH23-05 at 10' and 12' depths

Samples were collected at these depths

14:03 At 11:45 BH23-07 was dug and samples were collected at 0', 2', 4', 6', and 7'

14:03 All samples collected today were field screened on EC meter

All samples are clean on Chlorides

Daily Site Visit Report

14:05 All samples collected today were field screened on Petroflag unit

BH23-07 at 0’ and 2’ were hot on TPH

All other samples are clean for TPH

14:05 All samples collected are jarred and ready to be sent to lab

14:11 Geoprobe assisted with sampling today

Next Steps & Recommendations

1 Continue horizontal delineation to on west side of the site

Daily Site Visit Report

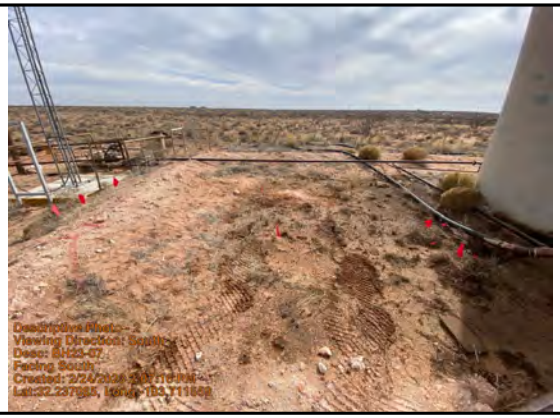
Site Photos

Viewing Direction: West

BH23-05 vertical delineation

Facing West

Viewing Direction: South



BH23-07
Facing South

Viewing Direction: Southwest

Overview of site
Facing Southwest

Viewing Direction: Northwest

Overview of site
Facing Northwest

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: Southeast
	
Overview of site Facing East	Overview of site Facing Southeast

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Jacob Reta

Signature:

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	3/21/2023
Site Location Name:	Mesa Verde 7 Federal 2 (spill at Mesa Verde 7 Fed 1 Battery)	Report Run Date:	3/22/2023 1:24 AM
Client Contact Name:	Wes Matthews	API #:	30-025-32399
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	3/21/2023 3:29 PM
Departed Site	3/21/2023 4:41 PM

Field Notes

15:33 Completed JSA at previous site. On site to re-mark site for new One Call.

16:38 Outlined east portion of battery and release area with white flags and/or paint.

16:38 Submitted One Call ticket request online.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: South

North of fence around containment facing south.

Viewing Direction: North

South of battery facing north.

Viewing Direction: East

South of battery facing east.

Viewing Direction: West

Southeast of battery facing west.

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: South
	
Southeast of battery facing north.	Northeast of battery facing south.
Viewing Direction: West	**Viewing Direction**: East
	
Northeast of battery facing west.	North of battery facing east.

Daily Site Visit Report

Viewing Direction: South

North of battery facing south.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Lakin Pullman

Signature:

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	4/12/2023
Site Location Name:	Mesa Verde 7 Federal 2 (spill at Mesa Verde 7 Fed 1 Battery)	Report Run Date:	4/12/2023 9:48 PM
Client Contact Name:	Wes Matthews	API #:	30-025-32399
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	4/12/2023 6:49 AM
Departed Site	4/12/2023 1:06 PM

Field Notes

6:59 Completed JSA on arrival. On site to continue horizontal delineation.

7:47 Mapped additional borehole locations in Arc Collector. Swept borehole areas with magnetic locator prior to ground disturbance.

12:24 Advanced BH23-10, BH23-11, BH23-12, and BH23-13 to attempt horizontal delineation. Collected samples at 0, 2, and 4 feet bgs.

12:25 Field screening results were all below NMOCD strictest criteria for chloride and TPH. Horizontal delineation complete pending laboratory results.

13:02 Remapped release area based on field screening results.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: South

North of containment facing south.

Viewing Direction: North

South of fence around containment facing north. Advanced BH23-10 southeast of tanks.

Viewing Direction: North

South of fence around containment facing north. Advanced BH23-11 south of tanks.

Viewing Direction: East

East side of west tank battery facing east. Advanced BH23-12 on edge of containment immediately west of release.

Daily Site Visit Report

Viewing Direction: South

North and east of fence around containment facing south. Advanced BH23-13 north of tanks.

Viewing Direction: East

Northeast corner of release area facing east.

Viewing Direction: East

Southeast corner of release area facing east.

Viewing Direction: Northwest

Southeast corner of release area facing northwest.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Lakin Pullman

Signature:

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	10/24/2023
Site Location Name:	Mesa Verde 6 Federal CTB	Report Run Date:	10/25/2023 1:02 AM
Client Contact Name:	Dale Woodall	API #:	
Client Contact Phone #:	405-318-4697		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	10/24/2023 2:00 PM
Departed Site	10/24/2023 3:50 PM

Field Notes

14:25 Arrive on site, drillers on site, conduct safety meeting

14:34 Drillers set up and begin drilling down 105 ft bgs

15:25 Drillers reach max depth of 105 ft bgs. Drillers begin putting casing down well

15:42 Driller send interface probe down well for measurements. Probe reads 105ft bgs. No water in well

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: West	**Viewing Direction**: West
	
Photo taken west facing east. Site name placard	Photo taken west facing east (encompasses entire pad)
Viewing Direction: North	**Viewing Direction**: Southeast
	
Photo taken north facing south. Encompasses entire pad (Drilling work happening on southeast corner of pad)	Southeast facing west, drillers begin going down 105 ft bgs

Daily Site Visit Report

Viewing Direction: Southeast

Photo taken north east facing southwest. Drillers reach max depth of 105 ft bgs and begin putting casing on

Viewing Direction: Southwest

Photo taken southwest facing north. Interface probe measurement 105 ft bgs

Viewing Direction: Southwest

Photo taken southwest facing north. Height of casing

Viewing Direction: Southwest

Photo taken southwest facing north. Well has been coned and sealed

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Alexis Castro

Signature: 

ATTACHMENT 5

Closure Criteria Determination				
Site Name: Mesa Verde 7 Federal #002				
Spill Coordinates: 32.23701,-103.71170		X: 621377	Y: 3567435	
Site Specific Conditions		Value	Unit	Reference
1	Depth to Groundwater (nearest reference)	**105'**	feet	1
	Distance between release and nearest DTGW reference	**1,950**	feet	
		0.37	miles	
	Date of nearest DTGW reference measurement	**December 14, 2023**		
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	30,492	feet	2
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	38,945	feet	3
4	Within 300 feet from an occupied residence, school, hospital, institution or church	15,486	feet	4
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, **or**	4,299	feet	5
	ii) Within 1000 feet of any fresh water well or spring	4,491	feet	5
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)	6
7	Within 300 feet of a wetland	4,188	feet	7
8	Within the area overlying a subsurface mine	No	(Y/N)	8
	Distance between release and nearest registered mine	**68,277**	feet	
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low	9
	Distance between release and nearest unstable area	**47,898**	feet	
10	Within a 100-year Floodplain	Undetermined	year	10
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	**36,036**	feet	
11	Soil Type	Fine Sand, fine sandy loam		11
12	Ecological Classification	Loamy Sand		12
13	Geology	Eolian and piedmont deposits		13
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	>100'	<50' 51-100' >100'	

Mesa Verde 7 Federal 2 - 1,950 ft from DTGW reference

1/26/2024, 12:12:37 PM

1:14,623

0 0.1 0.2 0.4 mi

0 0.15 0.3 0.6 km

Esri, HERE, iPC, Esri, HERE, Garmin, iPC, Maxar

Online web user

This is an unofficial map from the OSE's online application.

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

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

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

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

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 04775 POD1		CUB	LE	4	4	4	06	24S	32E	621789	3567860	577	105		
C 04672 POD 1		CUB	ED	2	1	4	01	24S	31E	619762	3568286	1611	110		
C 03555 POD1		C	LE	2	2	1	05	24S	32E	622748	3569233	1684	600	380	220
C 04712 POD1		CUB	LE	1	4	1	31	23S	32E	620917	3570289	2078	55		
C 03530 POD1		C	LE	3	4	3	07	24S	32E	620886	3566156	2159	550		
C 04746 POD1		CUB	ED	3	4	3	36	23S	31E	619226	3569417	2439	105		
C 04687 POD1		CUB	ED	4	2	3	12	24S	31E	619481	3566450	2618	110		
C 03529 POD1		C	LE	2	4	3	29	23S	32E	622651	3571212	3216	550		
C 02405		CUB	ED		4	1	02	24S	31E	617690	3568631*	3701	275	160	115
C 02464		C	ED	2	3	1	02	24S	31E	617645	3568581	3742	320	205	115
C 02460		C	ED			3	02	24S	31E	617496	3568022*	3884	320		
C 02460 POD2		C	ED			3	02	24S	31E	617496	3568022*	3884	320		
C 03527 POD1		C	LE	1	2	3	03	24S	32E	625770	3568487	4402	500		
C 04780 POD1		CUB	LE	1	3	1	34	23S	32E	625364	3570521	4586	80		
C 03851 POD1		CUB	LE	3	3	4	20	23S	32E	622880	3572660	4649	1392	713	679
C 02348		C	ED	1	4	3	26	23S	31E	617648	3571068	4664	700	430	270
C 02350		CUB	ED		4	3	10	24S	32E	625826	3566333*	4852	60		
C 02258		C	ED		3	2	26	23S	31E	618055	3571853*	4889	662		

Average Depth to Water: **377 feet**
Minimum Depth: **160 feet**
Maximum Depth: **713 feet**

Record Count: 18

UTMNAD83 Radius Search (in meters):

Easting (X): 621373 **Northing (Y):** 3568261 **Radius:** 5000

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

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	C 04775 POD1	4	4	4	06	24S	32E	621789	3567860

Driller License:	1833	**Driller Company:**	VISION RESOURCES, INC		
Driller Name:	JASON MALEY				
Drill Start Date:	12/14/2023	**Drill Finish Date:**	12/14/2023	**Plug Date:**	12/21/2023
Log File Date:	01/12/2024	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:		**Depth Well:**	105 feet	**Depth Water:**	

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 04775 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: MON MONITORING WELL

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 0 **Cause/Case:** -

Owner: DEVON ENERGY RESOURCES

Contact: DALE WOODALL

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	751179	EXPL	2023-09-19	PMT	APR	C-4775 POD1	T	0	0	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
C 04775 POD1	NA		4	4	4	06	24S	32E	621789	3567860	

Source

Acres	Diversion	CU	Use	Priority	Source	Description
0	0		MON		GW	

WELL RECORD & LOG

Mesa Verde 6F

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
C-4775 POD1		C04775

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Devon Energy Resources	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
205 E. Bender Road # 150	Hobbs	NM	88240

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	14	26.8944	N
	LONGITUDE	-103	42	26.1864	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHJIP, RANGE) WHERE AVAILABLE

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1833	Jason Maley	Vision Resources

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
12-14-23	12-14-23	105'	105'	Dry

COMPLETED WELL IS: ☐ ARTESIAN *add Centralizer info below ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): Dry

DATE STATIC MEASURED: 12-18-23

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	95'	6"	2" PVC SCH40	Thread	2"	SCH40	N/A
95'	105'	6"	2" PVC SCH40	Thread	2"	SCH40	.05

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL *(if using Centralizers for Artesian wells- indicate the spacing below)	AMOUNT (cubic feet)	METHOD OF PLACEMENT
			None Pulled and Plugged		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 09/22/2022)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	10'	10'	Red coarse sand	Y ✓ N	
10'	30'	20'	Tan Fine sand wih coarse rock	Y ✓ N	
30'	40'	10'	Red sand with white caliche	Y ✓ N	
40'	60'	20'	Tan sand with white caliche	Y ✓ N	
60'	80'	20'	Red sand with small rock	Y ✓ N	
80'	105'	25'	Tan fine sand with caliche	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY: Dry

TOTAL ESTIMATED WELL YIELD (gpm): 0

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jason Maley — 1/10/24

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 09/22/2022)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2

PLUGGING RECORD

NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: c-4775 Pod1

Well owner: Devon Energy Resources Phone No.: _____

Mailing address: 205 E. Bender Road # 150

City: Hobbs State: NM Zip code: 88240

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: Vision Resources

2) New Mexico Well Driller License No.: 1833 Expiration Date: 10-7-25

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): _____
Jason Maley

4) Date well plugging began: 12-21-23 Date well plugging concluded: 12-21-23

5) GPS Well Location: Latitude: 32 deg, 14 min, 26.8944 sec
Longitude: -103 deg, 42 min, 26.1864 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 105 ft below ground level (bgl),
by the following manner: Tape

7) Static water level measured at initiation of plugging: Dry ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 9-21-23

9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

Version: September 8, 2009
Page 1 of 2

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
0		155	155	Tremie pipe Open Hole	
	Wyoming Bentonite				
105'					

MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

III. SIGNATURE:

I, Jason Maley, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Signature of Well Driller — Date: 1/10/24

Version: September 8, 2009
Page 2 of 2

U.S. Fish and Wildlife Service
National Wetlands Inventory

Mesa Verde 7 Federal #002
Watercourse 30,492 feet

January 26, 2024

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.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

U.S. Fish and Wildlife Service
National Wetlands Inventory

Mesa Verde 7 Federal #002 Pond 38,945ft

May 16, 2025

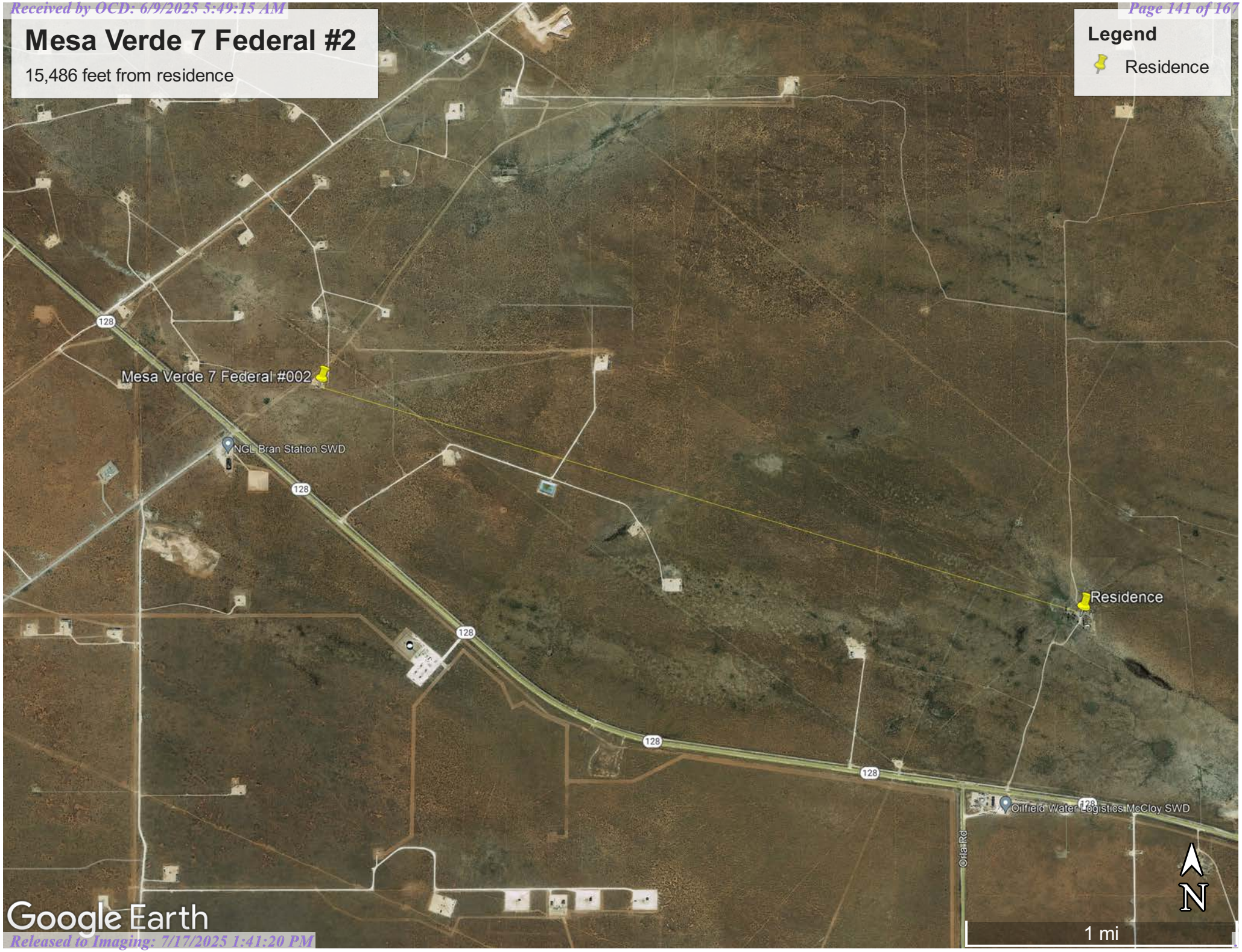
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Mesa Verde 7 Federal #2

15,486 feet from residence



New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q 64	q 16	q 4	Sec	Tws	Rng	X	Y	Distance
C 03530	C	STK	0	ANNETTE MCCLOY	LE	C 03530 POD1					3	4	3	07	24S	32E	620886	3566156	1369
C 04672	CUB	EXP	0	OXY USA INC.	ED	C 04672 POD 1	NA				2	1	4	01	24S	31E	619762	3568286	1825
C 04687	CUB	MON	0	OXY USA INC	ED	C 04687 POD1	NA				4	2	3	12	24S	31E	619481	3566450	2136
C 03555	C	STK	3	NGL WATER SOLUTIONS PERMIAN	LE	C 03555 POD1	NA			Shallow	2	2	1	05	24S	32E	622748	3569233	2261
C 04712	CUB	MON	0	HARVARD PETROLEUM COMPANY LLC	LE	C 04712 POD1	NA				1	4	1	31	23S	32E	620917	3570289	2890
C 00225 A	CUB	IRR	8.4	GREGORY ROCKHOUSE RANCH	ED	C 02405				Shallow		4	1	02	24S	31E	617690	3568631*	3876
C 01246 AO	CUB	IRR	47.82	CATHLEEN MC INTIRE	ED	C 02405				Shallow		4	1	02	24S	31E	617690	3568631*	3876
C 02405	C	PRO	0	TEXACO EXPLORATION & PROD. IND	ED	C 02405				Shallow		4	1	02	24S	31E	617690	3568631*	3876
C 02452	C	PRO	0	TEXACO EXPLORATION & PROD INC.	ED	C 02405				Shallow		4	1	02	24S	31E	617690	3568631*	3876
					ED	C 02452						4	1	02	24S	31E	617690	3568631*	3876
C 02576	C	PRO	0	SONAT EXPLORATION COMPANY	ED	C 02405				Shallow		4	1	02	24S	31E	617690	3568631*	3876
C 02464	C	PRO	0	COMMISSIONER OF PUBLIC LANDS	ED	C 02464				Shallow	2	3	1	02	24S	31E	617644	3568581	3904
C 02460	C	PRO	0	SONAT EXPLORATION	ED	C 02460				Shallow			3	02	24S	31E	617496	3568022*	3925
					ED	C 02460 POD2				Shallow			3	02	24S	31E	617496	3568022*	3925
C 02901	C	PUB	0	B & H MAINTENANCE & CONST.	ED	C 02901					3	4	1	02	24S	31E	617589	3568530*	3943
C 03529	C	STK	0	U.S. DEPT. OF INTERIOR--BLM	LE	C 03529 POD1					2	4	3	29	23S	32E	622651	3571212	3986
C 04220	CUB	MON	0	CHEVRON N AMERICA EXPL & PROD	ED	C 04220 POD1	NA				2	3	3	11	24S	31E	617401	3566340	4123
C 02602	C	SAN	0	POGO PRODUCING COMPANY	ED	C 02602						2	2	35	23S	31E	618471	3570650*	4333
C 03575	C	STK	0	ANNETTE MCCCLOY	LE	C 03575 POD1					1	2	1	15	24S	32E	625637	3566103	4463
C 03527	C	STK	3	ANNETTE MCCLOY	LE	C 03527 POD1					1	2	3	03	24S	32E	625769	3568487	4516
C 02350	CUB	STK	3	LIMESTONE LIVESTOCK LLC	ED	C 02350						4	3	10	24S	32E	625826	3566333*	4583
C 04665	CUB	EXP	0	ENSOLUM	LE	C 04665	NA				1	1	2	30	24S	32E	621349	3562798	4636
C 04576	CUB	EXP	0	KB SERVICES LLC	ED	C 04576 POD1	NA			Artesian	1	2	1	23	24S	31E	617699	3564324	4816
C 01882	C	STK	0	BUREAU OF LAND MANAGEMENT US DEPT OF INTERIOR	LE	C 01882					1	1	4	03	24S	32E	626103	3568453*	4834
C 03528	C	STK	3	NGL WATER SOLUTIONS PERMIAN	LE	C 03528 POD1				Shallow	1	1	2	15	24S	32E	626040	3566129	4842

Record Count: 25

UTMNAD83 Radius Search (in meters):

Easting (X): 621377 **Northing (Y):** 3567435 **Radius:** 5000

Sorted by: Distance

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

New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	C 03530 POD1	3	4	3	07	24S	32E	620886	3566156

Driller License: **Driller Company:**

Driller Name:

Drill Start Date:	**Drill Finish Date:**	**Plug Date:**
Log File Date:	**PCW Rcv Date:**	**Source:**
Pump Type:	**Pipe Discharge Size:**	**Estimated Yield:**
Casing Size: 6.00	**Depth Well:** 550 feet	**Depth Water:**

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 03530 **Subbasin:** C **Cross Reference:** -

Primary Purpose: STK 72-12-1 LIVESTOCK WATERING

Primary Status: EXP EXPIRED

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 0 **Cause/Case:** -

Owner: U.S. DEPT. OF INTERIOR--BLM
Contact: STEVE DALY
User: MARK MCCLOY
Contact: A.J. OLSEN
User: ANNETTE MCCLOY
Contact: A.J. OLSEN

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	492598	72121	2012-01-10	EXP	EXP	C 03530	T		3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
C 03530 POD1			3	4	3	07	24S	32E	620886	3566156	

U.S. Fish and Wildlife Service
National Wetlands Inventory

Mesa Verde 7 Federal #002
Wetland 4,188 feet

February 25, 2023

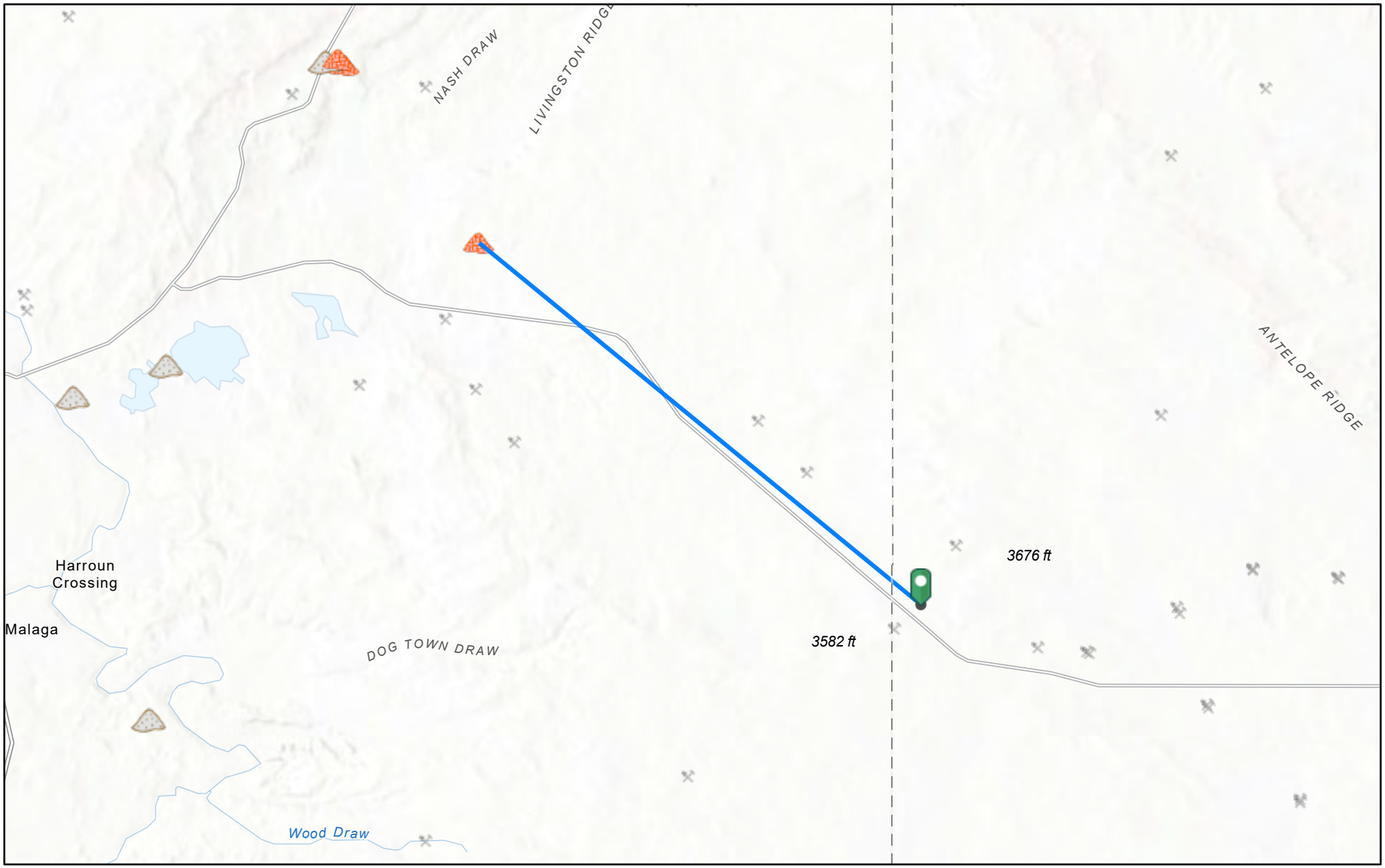
Wetlands

- 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.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Mesa Verde 7 Federal #2 - Mine 68,277ft



1/26/2024, 1:43:24 PM

1:233,976

0 1.75 3.5 7 mi

0 2.75 5.5 11 km

Registered Mines

Aggregate, Stone etc.

Aggregate, Stone etc.

Aggregate, Stone etc.

Aggregate, Stone etc.

Potash

Salt

Texas Parks & Wildlife, CONANP, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS, Esri, NASA, NGA, USGS

EMNRD MMD GIS Coordinator

NM Energy, Minerals and Natural Resources Department (http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=1b5e577974664d689b47790897ca2795)

National Flood Hazard Layer FIRMette

FEMA

32°14'29.50"N

103°43'18.49"W

103°42'41.03"W

32°13'59.06"N

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

1:6,000

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 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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

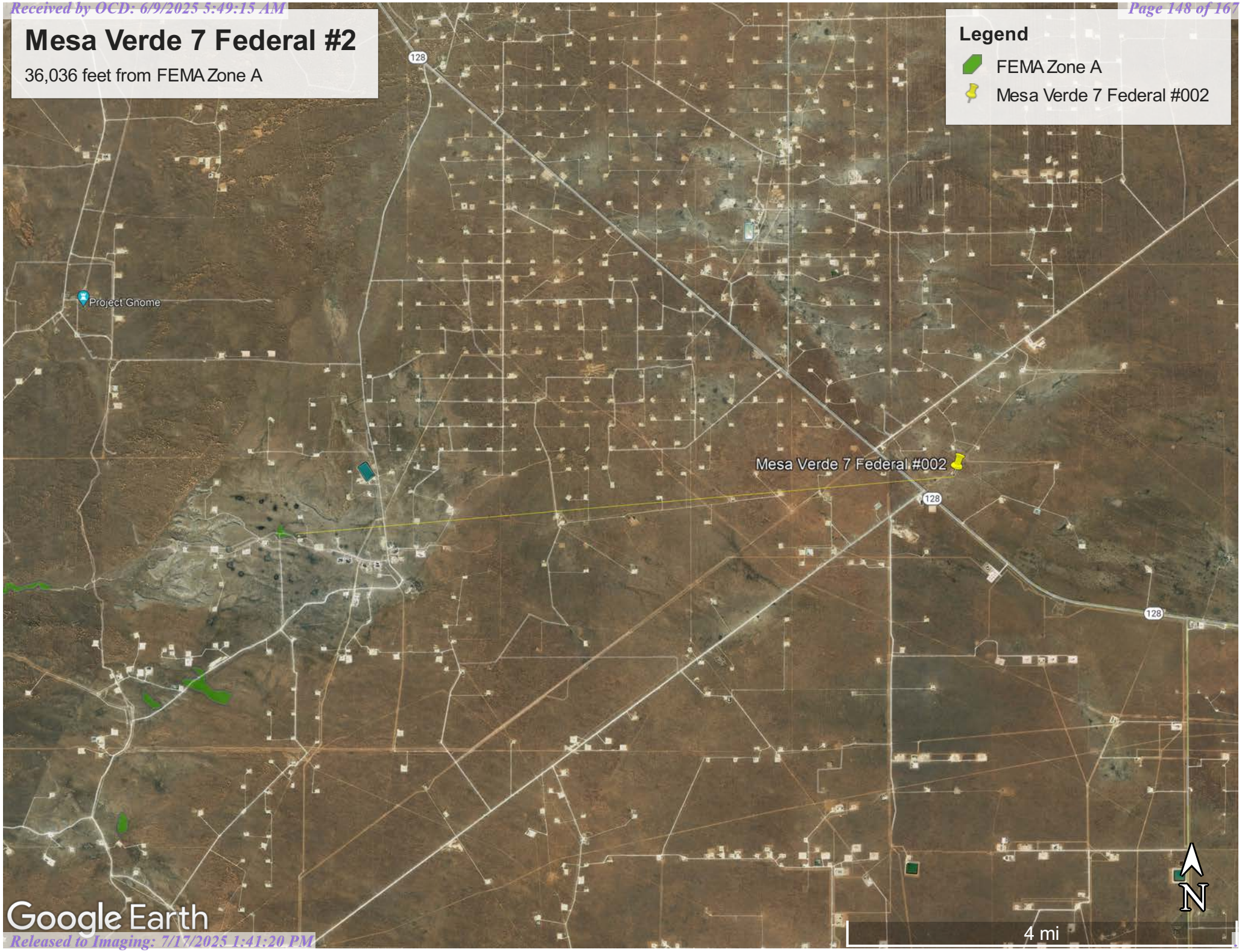
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/3/2020 at 5:04:21 PM 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.

Mesa Verde 7 Federal #2

36,036 feet from FEMA Zone A



United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Lea County, New Mexico

Mesa Verde 7 Federal 2

April 21, 2021

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 17, Jun 8, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 7, 2020—May 12, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Lea County, New Mexico

PU—Pyote and Maljamar fine sands

Map Unit Setting

National map unit symbol: dmqq
Elevation: 3,000 to 3,900 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

Pyote and similar soils: 46 percent
Maljamar and similar soils: 44 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pyote

Setting

Landform: Plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 30 inches: fine sand
Bt - 30 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Description of Maljamar

Setting

Landform: Plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 24 inches: fine sand
Bt - 24 to 50 inches: sandy clay loam
Bkm - 50 to 60 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 40 to 60 inches to petrocalcic
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Minor Components

Kermit

Percent of map unit: 10 percent
Ecological site: R042XC022NM - Sandhills
Hydric soil rating: No

USDA Natural Resources Conservation Service

Ecological site R042XC022NM
Sandhills

Accessed: 05/07/2021

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on plains. The soils are calcareous sandy eolian deposits derived from sedimentary rock. Land form of sand dunes or hillslopes. Slopes average 5 to 35 percent. Slopes are complex as the steeper slopes are shorter in length while the more gentle slopes are longer in length. Direction of slopes vary and is usually not significant. Elevations range from 2,842 to 4,500 feet.

Table 2. Representative physiographic features

Landforms	(1) Plain (2) Hill (3) Dune
Flooding frequency	None
Ponding frequency	None

Elevation	2,842–4,500 ft
Slope	5–35%
Aspect	Aspect is not a significant factor

Climatic features

The climate of the area is “semi-arid continental”. The average annual precipitation ranges from 8 to 13 inches. Variations of 5 inches, more or less, are common. Over 80 percent of the precipitation falls from April through October. Most of the summer precipitation comes in the form of high intensity – short duration thunderstorms. Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes. The average annual temperature is 61 degrees with extremes of 25 degrees below zero in the winter to 112 degrees in the summer. The average frost-free season is 180 to 220 days. The last killing frost is in late March or early April, and the first killing frost is in late October or early November. Temperature and rainfall both favor warm season perennial plant growth. In years of abundant spring moisture, annual forbs and cool season grasses can make up an important component of this site. Because of the texture of this soil, most rainfall is effective. Strong winds blow from the west and southwest from January through June which accelerates soil drying at a time for cool season plant growth.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

Table 3. Representative climatic features

Frost-free period (average)	220 days
Freeze-free period (average)	240 days
Precipitation total (average)	13 in

Influencing water features

This site is not influenced by wetlands or streams.

Soil features

The soils of this site are deep and very deep. Surface textures are fine sand or loamy fine sand. Subsoilis a fine sand or loamy fine sand to a depth of 60 inches or more. These soils have less than 10 percent clay content. These soils are subject to severe wind erosion if vegetative cover is not adequate.

Minimum and maximum values listed below represent the characterist soils for this site.

Characteristic Soils Are:
Kermit
Aguena

Table 4. Representative soil features

Surface texture	(1) Fine sand (2) Loamy fine sand (3) Loamy sand
Family particle size	(1) Sandy
Drainage class	Well drained to excessively drained
Permeability class	Rapid to very rapid
Soil depth	60–72 in
Surface fragment cover <=3"	0–5%

Surface fragment cover >3"	0%
Available water capacity (0-40in)	3–9 in
Calcium carbonate equivalent (0-40in)	0–7%
Electrical conductivity (0-40in)	0–2 mmhos/cm
Sodium adsorption ratio (0-40in)	0–1
Soil reaction (1:1 water) (0-40in)	7.4–8.4
Subsurface fragment volume <=3" (Depth not specified)	0–5%
Subsurface fragment volume >3" (Depth not specified)	0%

Ecological dynamics

Overview:
The Sandhills site occurs adjacent to or intergrades with the Deep Sand site. The Sandhills site is differentiated from deep sand sites by a steeper average slope, and an increased depth to a soil texture change. Sandhills slopes are usually greater than eight percent, and the soil profile is a fine sand or loamy fine sand to a depth greater than 60 inches. Deep Sand sites have slopes less than eight percent and a textural change can occur at less than 60 inches. The historic plant community of the Sandhills site is a mixture of grasses, shrubs and forbs, with tall grasses dominating in aspect. During years of abundant spring moisture, tall growing forbs occasionally reach aspect dominance. Sand bluestem and giant dropseed are the dominant grasses, with Havard panicum and dropseeds as sub-dominants. Sand shinnery oak and soapweed yucca are the dominant shrubs. Drought favors shinnery by impacting grasses more severly. Shinnery oak's ability to store water and carbohydrates, and its strong negetive leaf water potential enable it to out compete grasses during drought conditions. Changes in historical fire regimes, competition by shrubs, and overgrazing may contribute to this site becoming dominated by sand shinnery oak.

State and transition model

Plant Communities and Transitional Pathways (diagram)

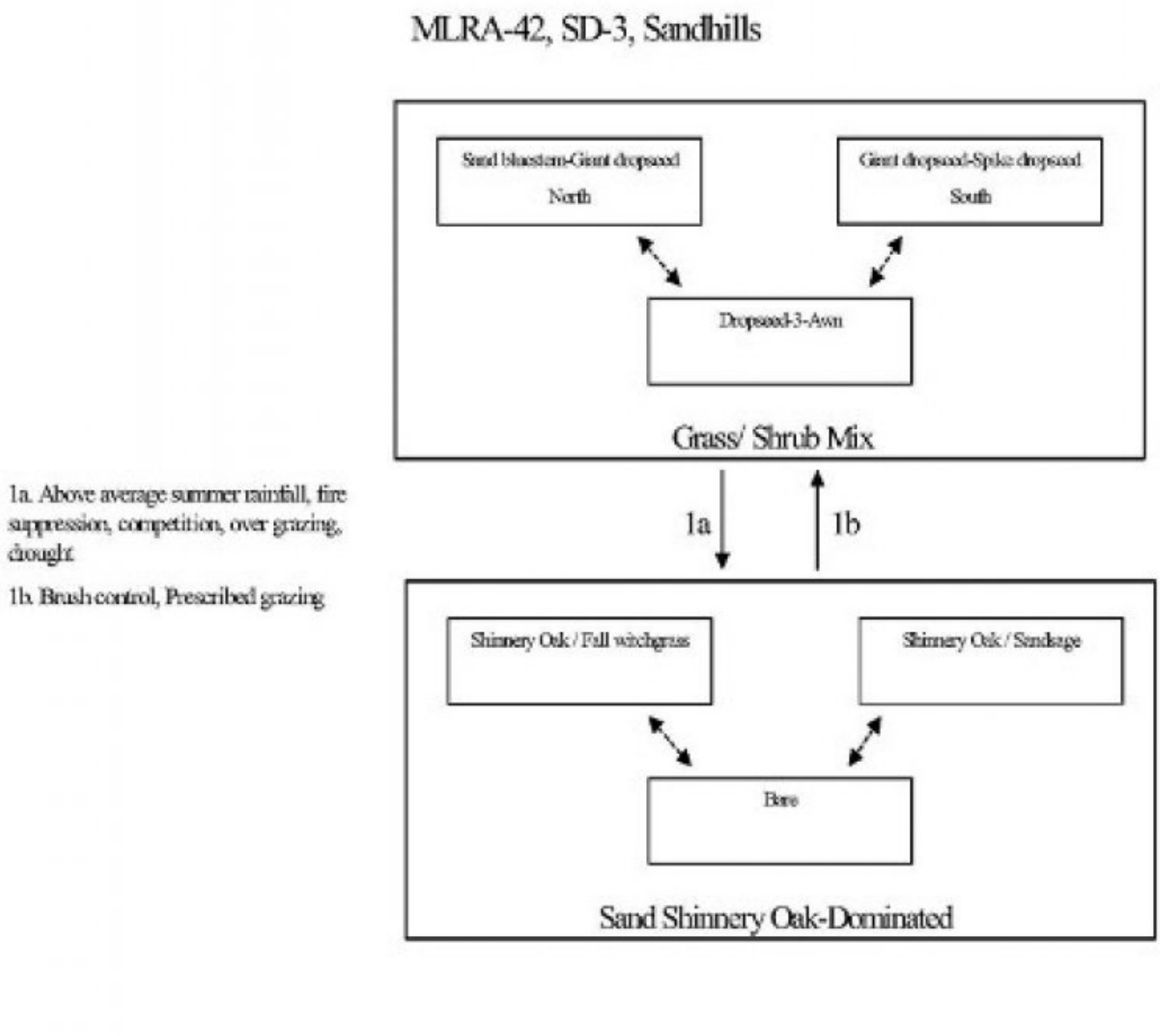


Figure 4.

State 1
Grass/Shrub Mix

Community 1.1
Grass/Shrub Mix

Grass/Shrub Mix: The historic plant community in the northern part of the resource area (SD-3) is dominated by sand bluestem and giant dropseed, with Havard panicum as a sub-dominant. Primary grass dominance may gradually shift moving south across the resource area to a community dominated by giant dropseed and spike dropseed, with mesa dropseed as the sub-dominant grass species. Throughout the resource area sand shinnery oak and soapweed yucca are the dominant shrubs with sand sagebrush as the sub-dominant. As retrogression within this state occurs, plants such as sand bluestem, giant dropseed, Havard panicum, plains bristlegrass, sand paspalum, and fourwing saltbush decrease. This results in an increase in spike dropseed, sand dropseed, mesa dropseed, threeawns sand shinnery oak, and sand sagebrush. Continued loss of grass cover may result in a transition to a sand shinnery oak dominated state.

Diagnosis: Sand bluestem or giant dropseed are dominant or present in substantial amounts. Spike dropseed, sand dropseed or mesa dropseed may be dominant in some instances. Grass cover is variable, shifting sands and large irregular dunes produce considerable variation in the spatial distribution and composition of the plant community. Grass cover is not continuous, but is fairly uniform across the more stable areas. Large natural bare areas or blowouts are a common feature on the less stable portions of the Sandhills site.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	360	585	810
Shrub/Vine	120	195	270
Forb	120	195	270
Total	**600**	**975**	**1350**

Table 6. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	0%
Grass/grasslike foliar cover	10-15%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	20-25%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	45-60%

Figure 6. Plant community growth curve (percent production by month). NM2822, R042XC022NM Sandhills HCPC. R042XC022NM Sandhills HCPC warm season plant community.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	1	3	4	10	10	25	30	12	5	0	0

State 2
Sand Shinnery Oak-Dominated

Community 2.1
Sand Shinnery Oak-Dominated

Additional States:
Sand Shinnery Oak -Dominated: Sand shinnery oak is the dominant species and in dense stands may reduce forage production by as much as 90 percent.1 It often forms a mosaic of dense thickets interspersed with occasional motts of taller oaks, large areas of bare ground, and concentrations of sand sagebrush. Sand shinnery oak is well suited to deep sandy soils. The height and cover of oak decreases as sand depth decreases or clay content increases. The aggressive nature of fall witchgrass and continued loss of more palatable grasses and threeawn species may result in a sand shinnery oak-fall witchgrass community. Burning may result in a community with very little grass or sand shinnery oak (bare). Sand shinnery oak usually recovers due to its ability to sprout aggressively following fire.

Diagnosis: Sand shinnery oak is the dominant species. Grass cover is sparse and patchy. Shrub cover is high. Blowouts and bare areas are common, however, high shrub cover mediates erosion.

Transition to Sand Shinnery Oak Dominated (1a): Climate may play a role in facilitating the spread sand shinnery oak. It is best adapted to those areas that receive and average of 16 inches of annual rainfall; it may therefore gain a competitive advantage during cycles of above average precipitation. Sand shinnery oak spreads mainly by elongation of rhizomes, but in some instances will reproduce by seed. The establishment and survival of seedlings is limited to those years with abundant rainfall during the months of July and August. If fire historically played a part in suppressing the density and distribution of shrubs in desert grasslands, then fire suppression may facilitate a shift to shrub dominance.2 Competition for resources between grasses and shrubs may be a factor in increased densities of sand shinnery oak. 1 Sand shinnery oak has an extensive system of underground roots and stems that can uptake and store water for growth during drier periods, allowing it to increase, at times when grasses decrease. Evidence of competitive suppression of grasses is indicated by increases in herbaceous vegetation following chemical control of sand shinnery oak.1 However, this increase may in part be due to a flush of nutrients made available from the decomposing biomass of woody roots and stems. Loss of grass cover due to overgrazing or drought may give a competitive advantage to sand shinnery oak.

Key indicators of approach to transition:
* A decrease in the tall grass species and the associated increase in threeawns may be indicative of the initial stage of transition to a shrub-dominated state.
* Increased cover of sand shinnery oak.

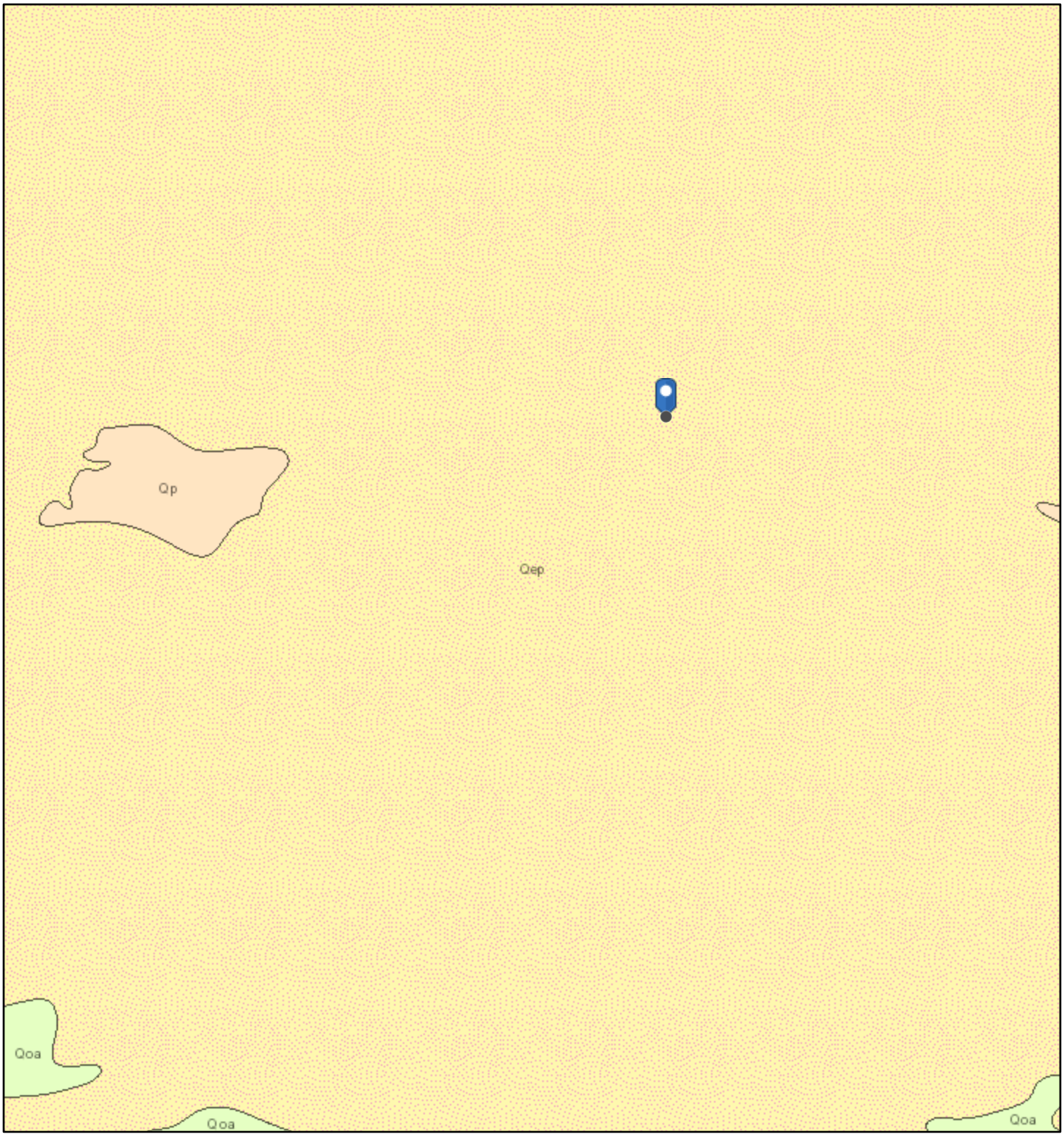
Transition back to Grass/Shrub Mix (1b) Chemical brush control is an effective means of controlling sand shinnery oak and sand sagebrush. Where large areas of chemical control are planned, increased erosion and the effect on loss of wildlife habitat should be considered. Prescribed grazing will help ensure an adequate deferment period to allow grass recovery and subsequent proper forage utilization. There have been studies that suggest long term browsing by goats can reduce sand shinnery oak, altering production in favor of grasses.3

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1				195–293	
	sand bluestem	ANHA	*Andropogon hallii*	195–293	–
	Havard's panicgrass	PAHA2	*Panicum havardii*	195–293	–
	giant dropseed	SPGI	*Sporobolus giganteus*	195–293	–
2				146–195	
	spike dropseed	SPCO4	*Sporobolus contractus*	146–195	–
	sand dropseed	SPCR	*Sporobolus cryptandrus*	146–195	–
	mesa dropseed	SPFL2	*Sporobolus flexuosus*	146–195	–
3				49–98	
	thin paspalum	PASE5	*Paspalum setaceum*	49–98	–
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	49–98	–
4				29–49	
	threeawn	ARIST	*Aristida*	29–49	–
	mat sandbur	CELO3	*Cenchrus longispinus*	29–49	–
	flatsedge	CYPER	*Cyperus*	29–49	–
5				29–49	
	Grass, perennial	2GP	*Grass, perennial*	29–49	–
Shrub/Vine					

Mesa Verde 7 Federal #002 Geology



5/16/2025, 10:27:06 AM

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

Lithologic Units

- Playa——Alluvium and evaporite deposits (Holocene)
- Water——Perenial standing water
- Qa——Alluvium (Holocene to upper Pleistocene)

Esri, NASA, NGA, USGS, USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road data;

ArcGIS Web AppBuilder

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS

Action 471685

QUESTIONS

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 471685
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nOY1814156697**
Incident Name	**NOY1814156697 MESA VERDE 7 FEDERAL #002 @ 30-025-32399**
Incident Type	**Oil Release**
Incident Status	**Remediation Plan Received**
Incident Well	**[30-025-32399] MESA VERDE 7 FEDERAL #002**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	Mesa Verde 7 Federal #002
Date Release Discovered	05/02/2018
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Oil Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Overflow - Tank, Pit, Etc. | Tank (Any) | Crude Oil | Released: 15 BBL | Recovered: 8 BBL | Lost: 7 BBL.
Produced Water Released (bbls) Details	*Not answered.*
Is the concentration of chloride in the produced water >10,000 mg/l	*Not answered.*
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 471685
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**No**
Reasons why this would be considered a submission for a notification of a major release	*Unavailable.*
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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.

I hereby agree and sign off to the above statement	Name: Roni Kidd Title: Business Manager Email: rkidd@buckhornproduction.com Date: 06/06/2025

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Phone: (505) 476-3441

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

QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 471685
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Greater than 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan		
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.		
Requesting a remediation plan approval with this submission		Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.		
Have the lateral and vertical extents of contamination been fully delineated		Yes
Was this release entirely contained within a lined containment area		No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)		
Chloride	(EPA 300.0 or SM4500 Cl B)	260
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	20200
GRO+DRO	(EPA SW-846 Method 8015M)	15300
BTEX	(EPA SW-846 Method 8021B or 8260B)	176.2
Benzene	(EPA SW-846 Method 8021B or 8260B)	1.2
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.		
On what estimated date will the remediation commence		07/01/2025
On what date will (or did) the final sampling or liner inspection occur		10/01/2025
On what date will (or was) the remediation complete(d)		10/01/2025
What is the estimated surface area (in square feet) that will be reclaimed		2420
What is the estimated volume (in cubic yards) that will be reclaimed		449
What is the estimated surface area (in square feet) that will be remediated		2420
What is the estimated volume (in cubic yards) that will be remediated		449
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.		
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.		

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QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 471685
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
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.	
I hereby agree and sign off to the above statement	Name: Roni Kidd Title: Business Manager Email: rkidd@buckhornproduction.com Date: 06/06/2025
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 471685
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 471685
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	***{Unavailable.}***

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	No

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CONDITIONS

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 471685
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	The Remediation Plan is Conditionally Approved. All samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Floor confirmation samples should be delineated/excavated to meet closure criteria standards from Table 1 of the OCD Spill Rule for site assessment/characterization/proven depth to water determination. All sidewall samples should be taken from the sidewall of the excavation. Please make sure that the edge of the release extent is accurately defined. Sidewall/edge samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Also, sample up against the tanks to ensure fluids did not go underneath the tanks. Please collect confirmation samples, representing no more than 200 ft2. The work will need to be completed in 90 days after the report has been reviewed.	7/17/2025