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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # *(assigned by OCD)*
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# *(if applicable)*

Unit Letter	Section	Township	Range	County

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release		

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

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.

☐ The impacted area has been secured to protect human health and the environment.

☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☐ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: _____ Title: _____

Signature: Callie Karrigan _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Amalia Barrantes _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAB1906557741
District RP	1RP-5386
Facility ID	
Application ID	pAB1906557512

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	nAB1906557741
District RP	1RP-5386
Facility ID	
Application ID	pAB1906557512

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

Printed Name: __Callie Karrigan_____ Title: _____HES Professional_____

Signature:_____*Callie Karrigan* _____ Date: ___5/9/2019_____

email: ___cnkarrigan@marathonoil.com_____ Telephone: ___575-297-0956_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAB1906557741
District RP	1RP-5386
Facility ID	
Application ID	pAB1906557512

Remediation Plan

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

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

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

☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☒ Extents of contamination must be fully delineated.

☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: __Melodie Sanjari_____ Title: _____HES Professional_____

Signature:_____Melodie Sanjari_____ Date: ___10/31/2022_____

email: ___msanjari@marathonoil.com_____ Telephone: ___575-988-8753_____

OCD Only

Received by: OCD Date: 10/31/2022

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

Signature: Ashley Maxwell Date: 2/07/2023

Request for variance of base samples collected every 1,000 sq feet denied.

OCD approves a variance of base samples collected every 500 sq feet. OCD agrees with proposed side wall sampling of every 200 sq feet.

General Information

NMOCD District:	Hobbs	Incident ID:	nAB1906557741
Landowner:	State	RP Reference:	1RP-5386
Client:	Marathon Oil Permian LLC	Site Location:	Getty 35 State Com #001
Date:	October 21, 2022	Project #:	22E-01931
Client Contact:	Melodie Sanjari	Phone #:	(575) 988-8753
Vertex PM:	Michael Moffitt	Phone #:	(832) 684-5138

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 these areas. On February 11, 2019, illegal dumping of produced water was discovered off the lease road immediately north of Getty 35 State Com #001 (hereafter referred to as "Getty State"). The illegal dumping occurred over a legacy pit presumably used during initial drilling of Getty State in 1978. The area of environmental concern identified and delineated is the approximate location of the legacy pit and surrounding area north of the existing Getty state well pad. The primary objective is the remediation of the soil that was impacted during the illegal dumping, the secondary objective is to remediate and stabilize the pit to prevent migrate into the well pad and surrounding pasture per New Mexico Administrative Code (NMAC 19.15.29.13). Closure criteria has been selected as per NMAC 19.15.29. All applicable research as it pertains to closure criteria selection is presented in Attachment 1. The closure criteria for the site is presented below.

Table 1. Closure Criteria for Soils to Remediation & Reclamation Standards

	Constituent	Limit
0-4 feet bgs (19.15.29.13)	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
DTGW > 100 feet (19.15.29.12)	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

Bgs – Below Ground Surface
DTGW – Depth to ground water
TPH - Total petroleum hydrocarbons = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)
BTEX - Benzene, toluene, ethylbenzene, and xylenes

Site Assessment/Characterization

A previous remediation work plan for the release was denied on December 10, 2019, due to insufficient depth to groundwater reference data. Atkins Engineering Associates Inc. obtained a permit from New Mexico Office of the State Engineer approving collection of lithological data for a test borehole for depth to groundwater (DTGW) on the east edge of the area of interest. On August 11, 2022, the borehole was drilled to a depth on 106 feet, was left open as per requirements on the WR-07 Application for Permit to Drill a Well With No Water Right, and an interface probe lowered into the bottom of the borehole to investigate if groundwater may have accumulated during the 72 hour waiting period; no water was present at that time. The borehole was plugged on August 19, 2022, as per requirements on the WR-08, Well Plugging Plan of Operations. The boring log and well plugging plan are included in Attachment 3.

Site characterization was completed on September 9, 2022. A total of 47 sample points were established, and samples collected for field screening. Samples collected at the deepest vertical and horizontal distances below closure criteria were submitted to the laboratory for analysis. In total, 77 samples were submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico for analysis. The sample locations are presented on Figure 1 (Attachment 1). The approximate location of the illegal dumping mapped in the original workplan is presented on Figure 2 (Attachment 1). Laboratory analysis results have been compared to the above noted closure criteria and the results from the characterization activity are presented in Attachment 2. Exceedances of remediation or reclamation criteria are identified in the table as bold with green backgrounds, respectively.

Proposed Remedial Activities

Areas identified with contaminant concentrations above closure criteria will be remediated through excavation. Laboratory results from the characterization have been referenced to estimate both the vertical and horizontal limits of the impacts. Soil will be excavated out to the horizontal extents of the known contamination and to a depth of 4 feet below ground surface (bgs). Field screening will be utilized to confirm removal of contaminated soil to below the applicable closure criteria. Once excavation is complete, confirmatory samples will be collected and laboratory analysis completed to confirm closure criteria guidelines are met. The dimension and lateral extents of the proposed excavation can be found in the aerial photograph and site schematic of the determined sampling area included in Figure 1 (Attachment 1). The excavation will be backfilled with clean soil sourced locally.

nAB1906557741, 1RP-5386

Atkins Engineering Associates Inc. was subcontracted by Marathon Oil Permian, LLC. to advance boreholes with a core rig on August-11-, 2022. Boreholes BH22-15 and BH22-24 were sampled at various intervals from 0 to 50 feet bgs to complete vertical delineation. No exceedances to remediation closure criteria were identified below 4 feet bgs. Soil will be excavated to a planned depth of 4 feet over the entire impacted area. Heavy equipment will be used to complete excavation. Horizontal and vertical extents of the spill area will be determined using field screening. The estimated volume to be excavated is 15,500 cubic yards.

To ensure future successful revegetation of the site, a geosynthetic clay liner (GCL) will be fitted over the base of the final excavation. The GCL will be installed to manufacturer specifications, backfilled to grade, and contoured to blend with the surrounding landscape. The lease road currently running through the potential excavation area will be removed as needed during remediation and rebuilt once remediation is completed.

Vertex Resource Services, Inc. and Marathon Oil Permian, LLC. request a variance for confirmation sampling due to the square footage of the excavated area and as depth to groundwater has been determined to be greater than 100 feet bgs after the DTGW borehole was drilled. This variance request will consist of five-point composite samples for every 1,000 square feet of base excavation area in the 4 foot excavation. Excavation wall areas will utilize five-point composite samples each representative of no more than 200 square feet. Additional discrete grab samples will be collected from areas with discoloration and analyzed for chloride (EPA 300.0), BTEX (EPA 8021B), and TPH (EPA 8015D) depending on field screening results.

Should you have any questions or concerns, please contact the undersigned at 701.495.1722 or lpullman@vertex.ca.

Lakin Pullman

Lakin Pullman, B.Sc.
SENIOR TECHNICAL EXPERT, REPORTING

October 27 ,2022
Date

Michael Moffitt

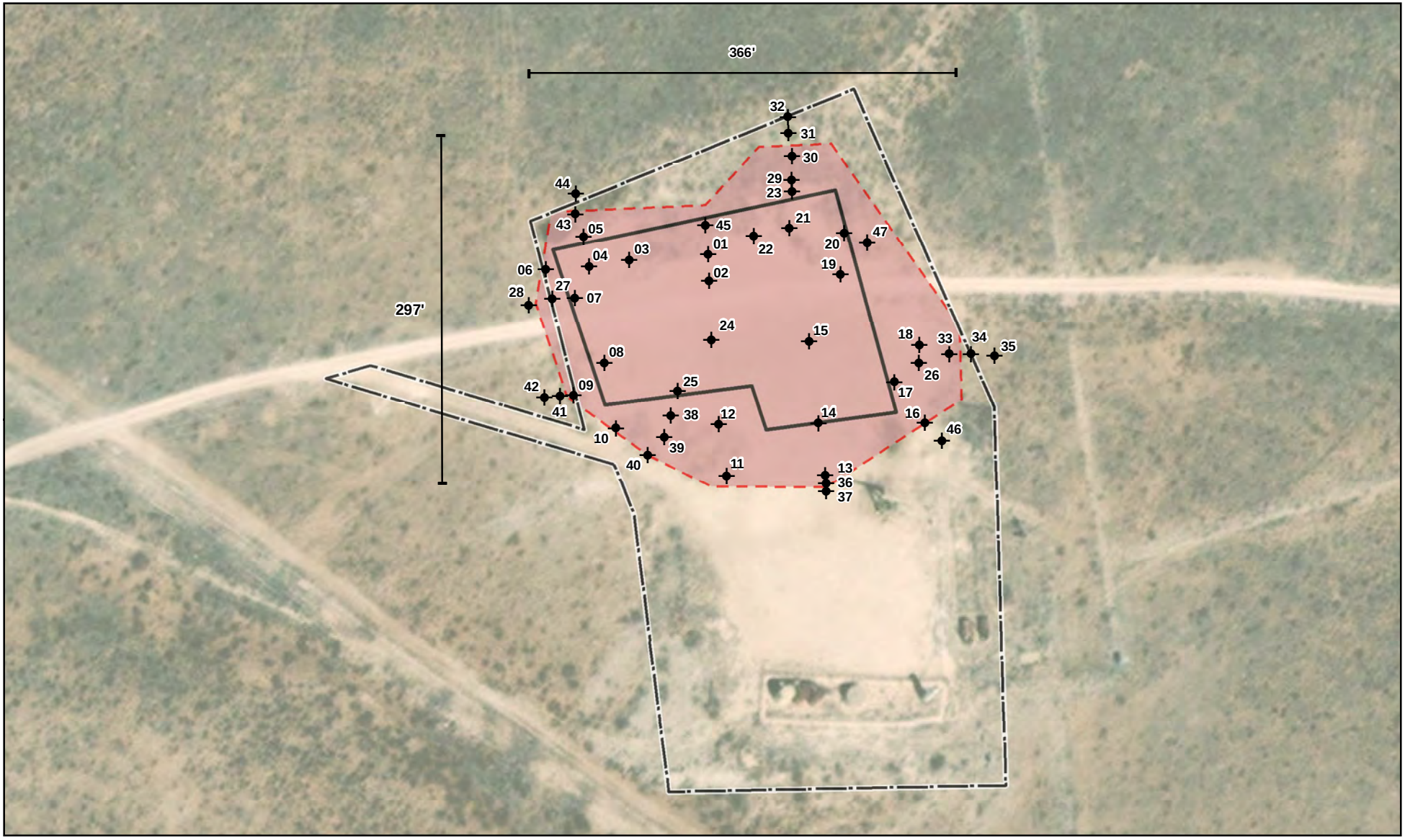
Michael Moffitt, B.Sc.
MANAGER ENVIRONMENT, REPORT REVIEW

October 27 ,2022
Date

Attachments

Attachment 1: Site Schematics
Attachment 2: Table
Attachment 3: Closure Criteria Research
Attachment 4: Laboratory Results Table and Laboratory Analysis

ATTACHMENT 1



Borehole (Prefixed by "BH22-") | Approximate Impacted Area (~77,240 sq. ft.) | Approximate Perimeter of Pit (~40,894 sq. ft) | Lease Boundary

VERTEX

0 25 50 100 Feet

Map Center:
Lat/Long: 32.434755, -103.444270

NAD 1983 UTM Zone 13N
Date: Oct 04/22

N

Characterization Sample Locations
Getty 35 State Com #001

FIGURE:
1

Marathon Oil

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: Background imagery from Maxar, 2021. Features from GPS, Vertex Professional Services Ltd., 2022.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Marathon\22E-01931\Figure 1 Characterization_Getty 35 State Com #001.mxd

Legend

Legacy Pit

Release Area

N

0 46 92 184 Feet

Site and Sample location Map
Getty 35 State Com #1- Marathon
Sec 35 T21S R34E, New Mexico

Figure 2

P:\5-Marathon MSA 2019 (5E27950)\GIS\ARCGIS\MARATHON_MIT.aprx

Date Saved: 5/3/2019

Revisions

By:_____ Date:_____ Descr:_____

By:_____ Date:_____ Descr:_____

Drawn Heather Patterson

Date 5/3/2019

Checked _____

Approved _____

201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689-7040
Serving the Southwest & Rocky Mountains

ATTACHMENT 2

Client Name: Marathon Oil Company
Site Name: Getty 35 State Com #001
NMOCD Tracking #: nAB1906557741, 1RP-5386
Project #: 22E-01931
Lab Reports: 2207413, 2208A92, 2208A94, 2209424, 2209491, 2209555

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

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH22-01	0	May 7, 2022	1	-	1,398	-	-	-	-	-	-	-	**1,100**
BH22-02	0	May 7, 2022	167	-	11,988	ND	ND	ND	7000	3100	**7000**	**10100**	**11,000**
BH22-03	0	May 7, 2022	1	-	2,263	-	-	-	-	-	-	-	**3,500**
BH22-05	0	May 7, 2022	0	-	2,745	-	-	-	-	-	-	-	**2,000**
BH22-06	0	May 7, 2022	0	-	1,128	-	-	-	-	-	-	-	**760**
BH22-07	0	May 7, 2022	1	-	8,213	ND	ND	ND	300	420	**300**	**720**	**6,700**
BH22-08	0	May 7, 2022	0	-	1,790	-	-	-	-	-	-	-	**1,500**
BH22-09	0	May 7, 2022	0	-	1,278	-	-	-	-	-	-	-	**810**
BH22-10	0	May 7, 2022	1	-	358	-	-	-	-	-	-	-	150
BH22-11	0	May 7, 2022	1	-	993	-	-	-	-	-	-	-	**710**
BH22-12	0	May 7, 2022	1	-	1,215	-	-	-	-	-	-	-	**660**
BH22-14	0	May 7, 2022	1	-	12,650	ND	ND	ND	230	210	**230**	**440**	**11,000**
BH22-15	0	May 7, 2022	37	-	18,433	ND	ND	ND	4600	1400	**4600**	**6000**	**20,000**
	2	August 11, 2022	-	-	6,727	ND	ND	ND	3400	1400	**3400**	**4800**	**5,900**
	4	August 11, 2022	-	-	14,482	ND	ND	ND	200	110	200	310	**12,000**
	6	August 11, 2022	-	-	15,832	-	-	-	-	-	-	-	11,000
	8	August 11, 2022	-	-	16,097	-	-	-	-	-	-	-	9,700
	10	August 11, 2022	-	-	14,720	-	-	-	-	-	-	-	8,900
	20	August 11, 2022	-	-	3,530	-	-	-	-	-	-	-	2,300
	30	August 11, 2022	-	-	2,802	-	-	-	-	-	-	-	1,800
	40	August 11, 2022	-	-	1,974	-	-	-	-	-	-	-	1,200
	50	August 11, 2022	-	64	59	ND	ND	ND	ND	ND	ND	ND	200
BH22-16	0	May 7, 2022	1	-	1,260	-	-	-	-	-	-	-	**700**
BH22-17	0	May 7, 2022	1	-	9,763	ND	ND	ND	150	120	**150**	**270**	**8,900**
BH22-20	0	May 7, 2022	0	-	928	-	-	-	-	-	-	-	350
BH22-21	0	May 7, 2022	0	-	3,060	-	-	-	-	-	-	-	**1,800**
BH22-23	0	May 7, 2022	0	-	1,185	-	-	-	-	-	-	-	**920**
BH22-24	0	August 11, 2022	-	-	28,590	ND	ND	ND	2900	1900	**2900**	**4800**	**17,000**
	4	August 11, 2022	-	-	11,660	ND	ND	ND	ND	ND	ND	ND	**7,000**
	6	August 11, 2022	-	-	10,575	-	-	-	-	-	-	-	6,000
	10	August 11, 2022	-	-	10,676	-	-	-	-	-	-	-	6,200
	20	August 11, 2022	-	-	4,176	-	-	-	-	-	-	-	2,500
	30	August 11, 2022	-	-	4,615	-	-	-	-	-	-	-	2,900
	40	August 11, 2022	-	-	1,692	-	-	-	-	-	-	-	990
	50	August 11, 2022	-	50	ND	ND	ND	ND	ND	ND	ND	ND	83
BH22-25	0	August 11, 2022	-	-	2,172	-	-	-	-	-	-	-	-
BH22-26	0	August 11, 2022	-	-	9,046	-	-	-	-	-	-	-	-
BH22-27	0	September 7, 2022	0	-	1,327	ND	ND	ND	ND	ND	ND	ND	**790**
	1.5	September 7, 2022	0	-	1,643	ND	ND	ND	ND	ND	ND	ND	**1,200**
BH22-28	0	September 7, 2022	0	81	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1.5	September 7, 2022	0	49	518	ND	ND	ND	ND	ND	ND	ND	ND
BH22-29	0	September 7, 2022	0	-	238	ND	ND	ND	190	470	**190**	**660**	200
	1.5	September 7, 2022	0	-	751	ND	ND	ND	ND	910	ND	**910**	430
BH22-30	0	September 7, 2022	0	-	458	ND	ND	ND	200	550	**200**	**750**	330
	1.5	September 7, 2022	0	-	1,093	ND	ND	ND	210	420	**210**	**630**	550
BH22-31	0	September 7, 2022	0	476	129	ND	ND	ND	ND	78	ND	78	170
	1	September 7, 2022	0	423	272	ND	ND	ND	ND	55	ND	55	240
BH22-32	0	September 7, 2022	0	76	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1	September 7, 2022	1	79	441	ND	ND	ND	ND	ND	ND	ND	320
BH22-33	0	September 7, 2022	0	-	490	ND	ND	ND	ND	ND	ND	ND	260
	1	September 7, 2022	0	-	1,399	ND	ND	ND	ND	ND	ND	ND	**910**
BH22-34	0	September 7, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1	September 7, 2022	0	-	839	ND	ND	ND	ND	ND	ND	ND	480

VERTEX

Client Name: Marathon Oil Company
Site Name: Getty 35 State Com #001
NMOCD Tracking #: nAB1906557741, 1RP-5386
Project #: 22E-01931
Lab Reports: 2207413, 2208A92, 2208A94, 2209424, 2209491, 2209555

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Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH22-35	0	September 8, 2022	0	44	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1	September 8, 2022	0	29	305	ND	ND	ND	ND	ND	ND	ND	200
BH22-36	0	September 8, 2022	0	-	2,655	ND	ND	ND	130	390	**130**	**520**	**1,400**
	1.5	September 8, 2022	0	-	753	ND	ND	ND	ND	ND	ND	ND	400
BH22-37	0	September 8, 2022	0	30	275	ND	ND	ND	ND	ND	ND	ND	230
	1	September 8, 2022	0	19	447	ND	ND	ND	ND	ND	ND	ND	220
BH22-38	0	September 8, 2022	0	-	373	ND	ND	ND	110	260	**110**	**370**	180
	1	September 8, 2022	1	-	1,464	ND	ND	ND	250	590	**250**	**840**	170
BH22-39	0	September 8, 2022	0	-	2,027	ND	ND	ND	170	410	**170**	**580**	**1,100**
	1	September 8, 2022	0	-	1,294	ND	ND	ND	250	650	**250**	**900**	600
BH22-40	0	September 8, 2022	0	31	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1	September 8, 2022	0	96	234	ND	ND	ND	ND	ND	ND	ND	170
BH22-41	0	September 9, 2022	0	-	37	ND	ND	ND	ND	ND	ND	ND	ND
	1	September 9, 2022	0	-	1,044	ND	ND	ND	ND	ND	ND	ND	520
BH22-42	0	September 9, 2022	0	88	223	ND	ND	ND	ND	ND	ND	ND	120
	1	September 9, 2022	0	74	396	ND	ND	ND	ND	ND	ND	ND	240
BH22-43	0	September 9, 2022	0	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1	September 9, 2022	0	-	1,143	ND	ND	ND	ND	ND	ND	ND	**810**
BH22-44	0	September 9, 2022	0	135	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1	September 9, 2022	0	51	632	ND	ND	ND	ND	ND	ND	ND	430
BH22-45	0	September 9, 2022	0	-	ND	ND	ND	ND	21	91	21	**112**	ND
	1	September 9, 2022	0	-	730	ND	ND	ND	200	420	**200**	**620**	570
BH22-46	0	September 9, 2022	0	18	7	ND	ND	ND	ND	ND	ND	ND	ND
	1	September 9, 2022	0	21	72	ND	ND	ND	ND	ND	ND	ND	ND
BH22-47	0	September 9, 2022	0	-	620	ND	ND	ND	140	370	**140**	**510**	460
	1	September 9, 2022	0	-	1,283	ND	ND	ND	ND	ND	ND	ND	580

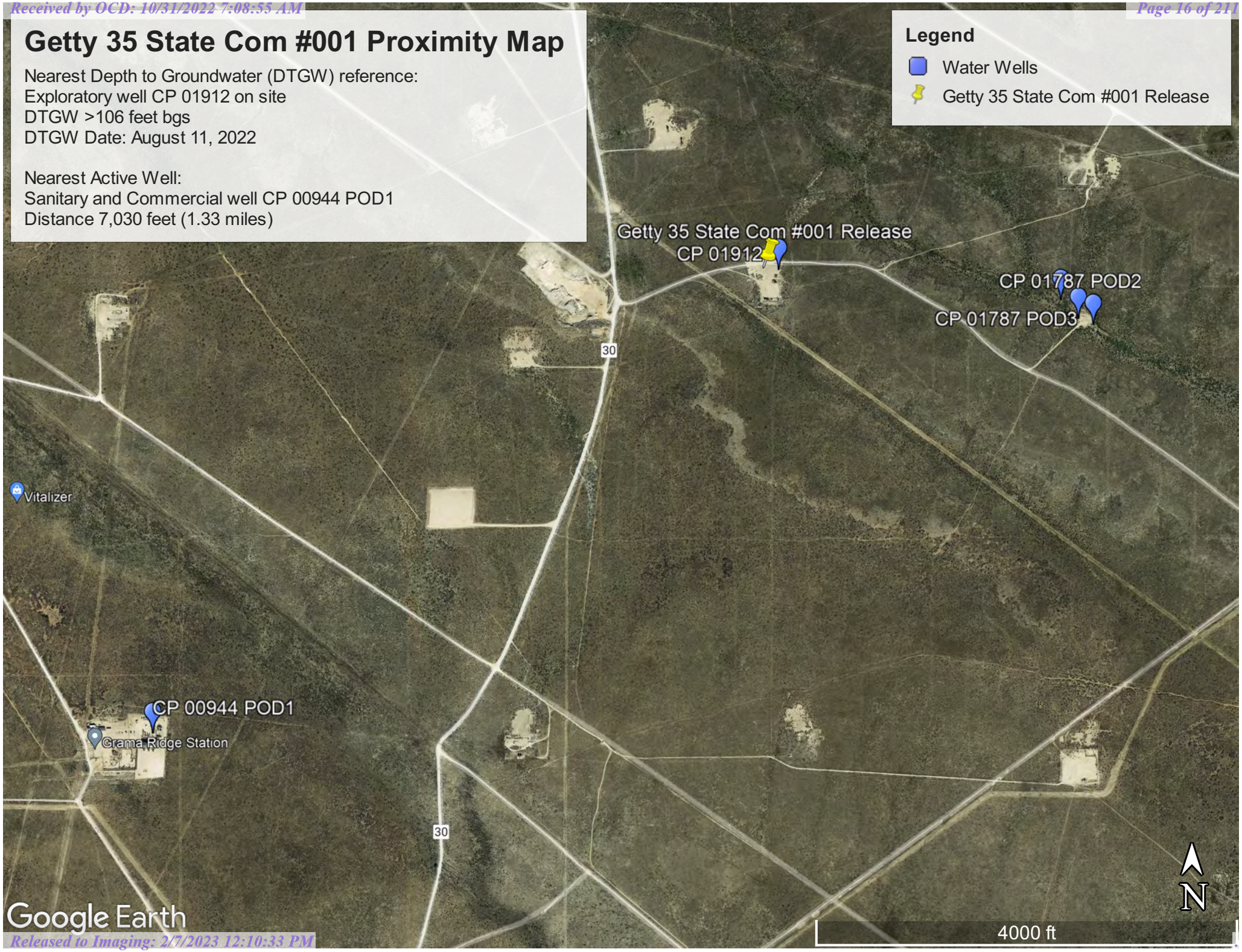
"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and green shaded indicates exceedance outside of NMOCD Reclamation Criteria (surface to 4 feet bgs) that will be removed during excavation

ATTACHMENT 3

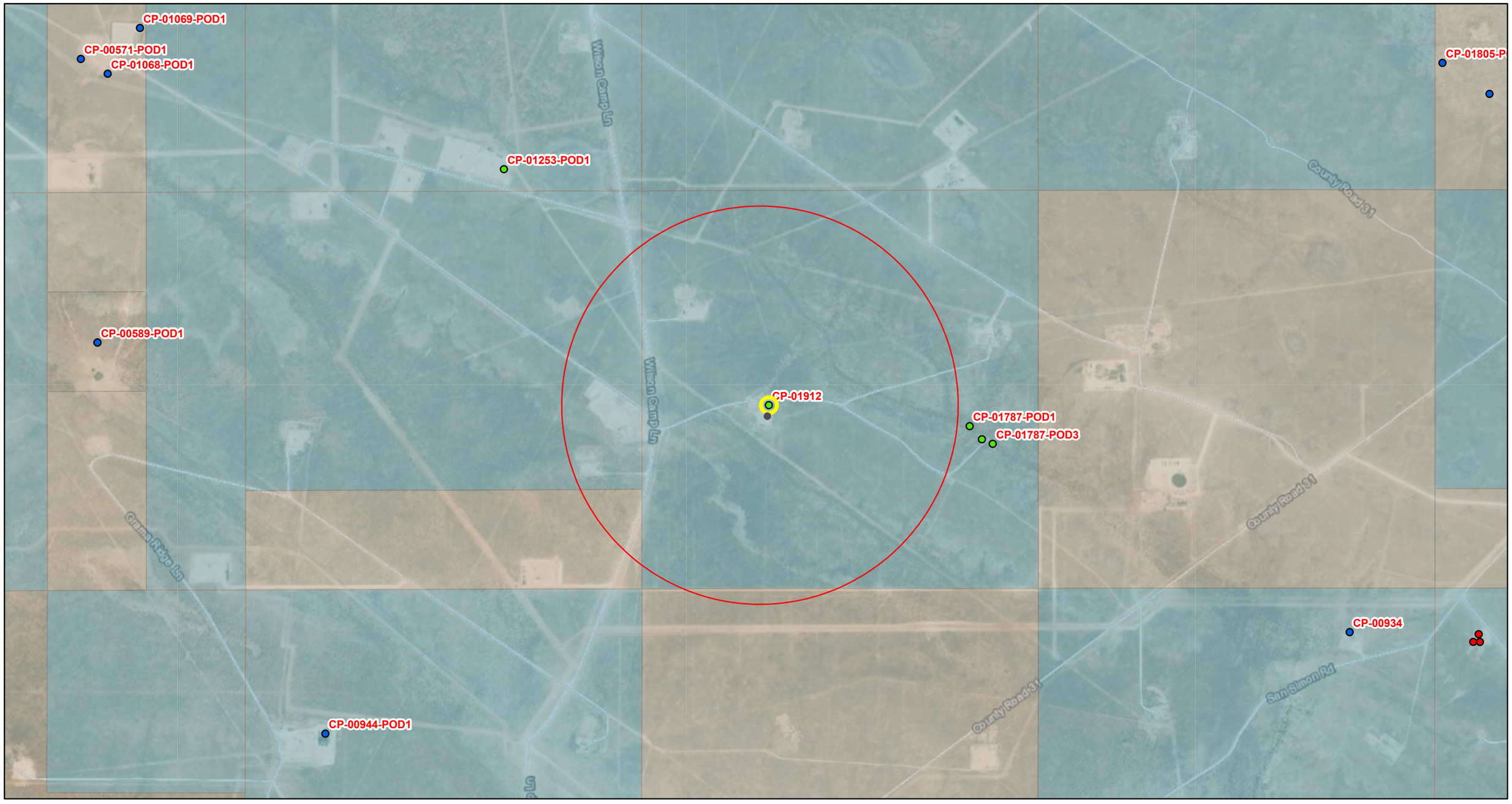
Getty 35 State Com #001 Proximity Map

Nearest Depth to Groundwater (DTGW) reference:
Exploratory well CP 01912 on site
DTGW >106 feet bgs
DTGW Date: August 11, 2022

Nearest Active Well:
Sanitary and Commercial well CP 00944 POD1
Distance 7,030 feet (1.33 miles)



OSE POD 0.5 mile



9/27/2022, 9:42:31 AM

GIS WATERS PODs
- Active
- Pending
- Plugged

OSE District Boundary

Water Right Regulations
- Closure Area

New Mexico State Trust Lands
- Subsurface Estate
- Both Estates
- SiteBoundaries

1:18,056

0 0.17 0.35 0.7 mi

0 0.3 0.6 1.2 km

Esri, HERE, GeoTechnologies, Inc., Esri, HERE, Garmin, GeoTechnologies, Inc., U.S. Department of Energy Office of Legacy Management, Maxar

Web Generated Map
Map is generated by web users.

Atkins ENGINEERING ASSOCIATES INC.
2904 W 2nd St.
Roswell, NM 88201
voice: 575.624.2420
fax: 575.624.2421
www.atkinseng.com

August 23, 2022

DII-NMOSE
1900 W 2nd Street
Roswell, NM 88201

Hand Delivered to the DII Office of the State Engineer

Re: Well Record CP-912 Pod-1

To whom it may concern:

Attached please find a well log & record and a plugging record, in duplicate, for a one (1) soil borings CP-912 Pod-1.

If you have any questions, please contact me at 575.499.9244 or lucas@atkinseng.com.

Sincerely,

Lucas Middleton

Enclosures: as noted above

WELL RECORD & LOG

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).
POD-1	n/a	CP-0912

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Marathon Oil	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
4111 S. Tidwell Rd.	Carlsbad	NM	88220

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	26	5.49	N
	LONGITUDE	103	26	37.27	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

NW NE SW Sec. 35 T21S R34E, NMPM

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
8/10/2022	8/11/2022	Soil Boring	±106	n/a

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): n/a

DATE STATIC MEASURED: 8/17/2022

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

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

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	106	6.25"	Soil Boring	--	--	--	--

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	AMOUNT (cubic feet)	METHOD OF PLACEMENT

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 01/28/2022)

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	14	14	Sand, medium grained , poorly graded,with caliche Tan	Y ✓ N	
14	49	35	Sand, medium grained , poorly graded,unconsolidated, Brown	Y ✓ N	
49	106	58	Sand, medium grained , poorly graded,unconsolidated, Tan	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	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

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: Temporary well material removed and soil boring backfilled using drill cuttings from total depth to ten feet below ground surface(bgs), then hydrated bentonite chips ten feet bgs to surface.

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

Shane Eldridge, Cameron Pruitt

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:

Jack Atkins — Jackie D. Atkins — 8/19/2022

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 01/28/2022)

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

OCD DIT AUG — 2022 PM 1:34

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: CP-0912 POD-1

Well owner: Marathon Oil   Phone No.: 575-988-8753

Mailing address: 4111 S. Tidwell Rd.

City: Carlsbad   State: NM   Zip code: 88220

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: Jackie D. Atkins (Atkins Engineering Associates Inc.)

2) New Mexico Well Driller License No.: 1249   Expiration Date: 04/30/23

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Shane Eldridge

4) Date well plugging began: 8/19/2022   Date well plugging concluded: 8/19/2022

5) GPS Well Location: Latitude: 32 deg, 26 min, 5.49 sec
Longitude: 103 deg, 26 min, 37.27 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 106 ft below ground level (bgl), by the following manner: weighted tape

7) Static water level measured at initiation of plugging: n/a ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 8/3/2022

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):

OSE DIT AUG 24 2022 PM1:34

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.)
	0-10' Hydrated Bentonite	Approx. 15 gallons	15 gallons	Augers	
	10'-106' Drill Cuttings	Approx. 153 gallons	153 gallons	Boring	

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

III. SIGNATURE:

I, Jackie D. Atkins, 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.

Jack Atkins

Signature of Well Driller

8/19/2022

Date

Version: September 8, 2009
Page 2 of 2

OSE DIT AUG 24 2022 PM 1:53

WR-20 Well Record and Log-forsign

Final Audit Report 2022-08-23

Created:	2022-08-19
By:	Lucas Middleton (lucas@atkinseng.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAmdRryLIPgTjDaMeTFYvHGOIExPcYQGIL

"WR-20 Well Record and Log-forsign" History

Document created by Lucas Middleton (lucas@atkinseng.com)
2022-08-19 - 7:30:16 PM GMT- IP address: 64.17.71.25

Document emailed to Jack Atkins (jack@atkinseng.com) for signature
2022-08-19 - 7:31:01 PM GMT

Email viewed by Jack Atkins (jack@atkinseng.com)
2022-08-23 - 3:49:09 PM GMT- IP address: 174.205.231.145

Document e-signed by Jack Atkins (jack@atkinseng.com)
Signature Date: 2022-08-23 - 3:49:47 PM GMT - Time Source: server- IP address: 174.205.231.145

Agreement completed.
2022-08-23 - 3:49:47 PM GMT

OCD DIT AUG 24 2022 AM 11:33

Adobe Acrobat Sign

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	CP 01912	1	2	3	35	21S	34E	646312	3589704

Driller License: 1249 **Driller Company:** ATKINS ENGINEERING ASSOC. INC.

Driller Name: JACKIE D. ATKINS

Drill Start Date:	08/10/2022	**Drill Finish Date:**	08/11/2022	**Plug Date:**	08/19/2022
Log File Date:	08/24/2022	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:		**Depth Well:**	106 feet	**Depth Water:**	

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: CP 01912 **Subbasin:** CP **Cross Reference:** -

Primary Purpose: EXP EXPLORATION

Primary Status: PMT PERMIT

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

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

User: MARATHON OIL

Contact: MELODIE SANJARI

x

Documents on File

Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive

get images

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
CP 01912		CP	LE	1	2	3	35	21S	34E	646312	3589704	44	106		
CP 00944 POD1		CP	LE		3	1	03	22S	34E	644531	3588351	2204	109	70	39
CP 00092 POD1		CP	LE	1	3	1	25	21S	34E	647479	3591694*	2348	196		
CP 00934		CP	LE	2	1	2	01	22S	34E	648682	3588822	2520	60	42	18
CP 00933		CP	LE	1	1	1	12	22S	34E	647541	3587246*	2712	60		
CP 00588 POD1		CP	LE		3	2	33	21S	34E	643583	3589918*	2734	89		
CP 00589 POD1		CP	LE		3	2	33	21S	34E	643583	3589918*	2734	84		
CP 00599 POD1		CP	LE		1	1	12	22S	34E	647642	3587147*	2846	62	50	12
CP 01069 POD1		CP	LE	2	1	4	28	21S	34E	643737	3591191	2989	210	140	70
CP 01875 POD1		CP	LE	3	1	1	06	22S	35E	649184	3588789	3007			
CP 01068 POD1		CP	LE	4	1	4	28	21S	34E	643609	3591005	3012	180	140	40
CP 01875 POD2		CP	LE	2	1	1	06	22S	35E	649206	3588821	3019			
CP 01875 POD3		CP	LE	4	1	1	06	22S	35E	649212	3588790	3033			
CP 00380		CP	LE		4	2	11	22S	34E	647245	3586739*	3068	45	30	15
CP 00596 POD1		CP	LE		4	2	11	22S	34E	647245	3586739*	3068	50		
CP 00751		CP	LE		4	2	11	22S	34E	647245	3586739*	3068		45	
CP 01066 POD1		CP	LE	4	3	2	28	21S	34E	643735	3591345	3073	210	140	70
CP 01805 POD1		CP	LE	3	1	3	30	21S	35E	649025	3591127	3090	140	50	90
CP 00571 POD1		CP	LE	3	1	4	28	21S	34E	643499	3591063	3137	170	135	35
CP 00604		CP	LE	1	4	4	01	22S	34E	648743	3587666*	3149	135		
CP 01717 POD1		CP	LE	2	3	3	30	21S	35E	649218	3591004	3207	155	52	103
CP 01199 POD1		CP	LE	1	4	3	30	21S	35E	649365	3590895	3300	142	48	94
CP 01801 POD1		CP	LE	3	3	1	30	21S	35E	649052	3591562	3341	140	48	92
CP 01067 POD1		CP	LE	1	3	4	28	21S	34E	643447	3591434	3364	210	140	70
CP 01091 POD1		CP	LE	3	3	2	28	21S	34E	643446	3591434	3364	200	140	60
CP 01715 POD1		CP	LE	3	4	3	30	21S	35E	649506	3590816	3403	140	42	98
CP 01716 POD1		CP	LE	3	2	3	30	21S	35E	649395	3591195	3450	236	50	186
CP 00917 POD1		CP	LE	3	2	3	30	21S	35E	649458	3591124	3476	146	40	106
CP 01200 POD1		CP	LE	3	2	3	30	21S	35E	649465	3591135	3487	200	45	155
CP 01198 POD1		CP	LE	3	2	3	30	21S	35E	649545	3591027	3516	180	46	134

CP 00586 POD1	CP	LE	2	2	3	30	21S	35E	649740	3590942	3666	140	42	98
CP 00635 POD1	CP	LE	2	4	3	30	21S	35E	649795	3590866	3692	60	40	20
CP 00744	CP	LE		1	2	09	22S	34E	643618	3587091*	3717	460		
CP 00916 POD1	CP	LE	1	3	4	30	21S	35E	649866	3590927	3779	110	42	68
CP 00585 POD1	CP	LE		1	4	30	21S	35E	649963	3591230*	3980	50		
CP 00583	CP	LE			3	21	21S	34E	642944	3592518*	4411	171	128	43
CP 00593 POD1	CP	LE		4	4	06	22S	35E	650422	3587591*	4607	62		
CP 00597 POD1	CP	LE		2	2	08	22S	34E	642410	3587074*	4675	35		
CP 00622	CP	LE	3	4	2	14	22S	34E	647164	3585030*	4709			
CP 01913 POD3	CP	LE	1	4	2	08	22S	34E	642394	3586721	4891	26		
CP 01913 POD1	CP	LE	1	4	2	08	22S	34E	642346	3586730	4925	35	31	4
CP 01913 POD2	CP	LE	1	4	2	08	22S	34E	642366	3586694	4930	31		
CP 01795 POD1	CP	LE	4	2	3	32	21S	35E	651258	3589579	4953	101	48	53

Average Depth to Water: **70 feet**

Minimum Depth: **30 feet**

Maximum Depth: **140 feet**

Record Count: 43

UTMNAD83 Radius Search (in meters):

Easting (X): 646305 **Northing (Y):** 3589660 **Radius:** 5000

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

9/27/22 9:45 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

U.S. Fish and Wildlife Service
National Wetlands Inventory

Intermittent, 864 feet

September 27, 2022

Wetlands

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

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

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Pond, 7,663 feet

September 27, 2022

Wetlands

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

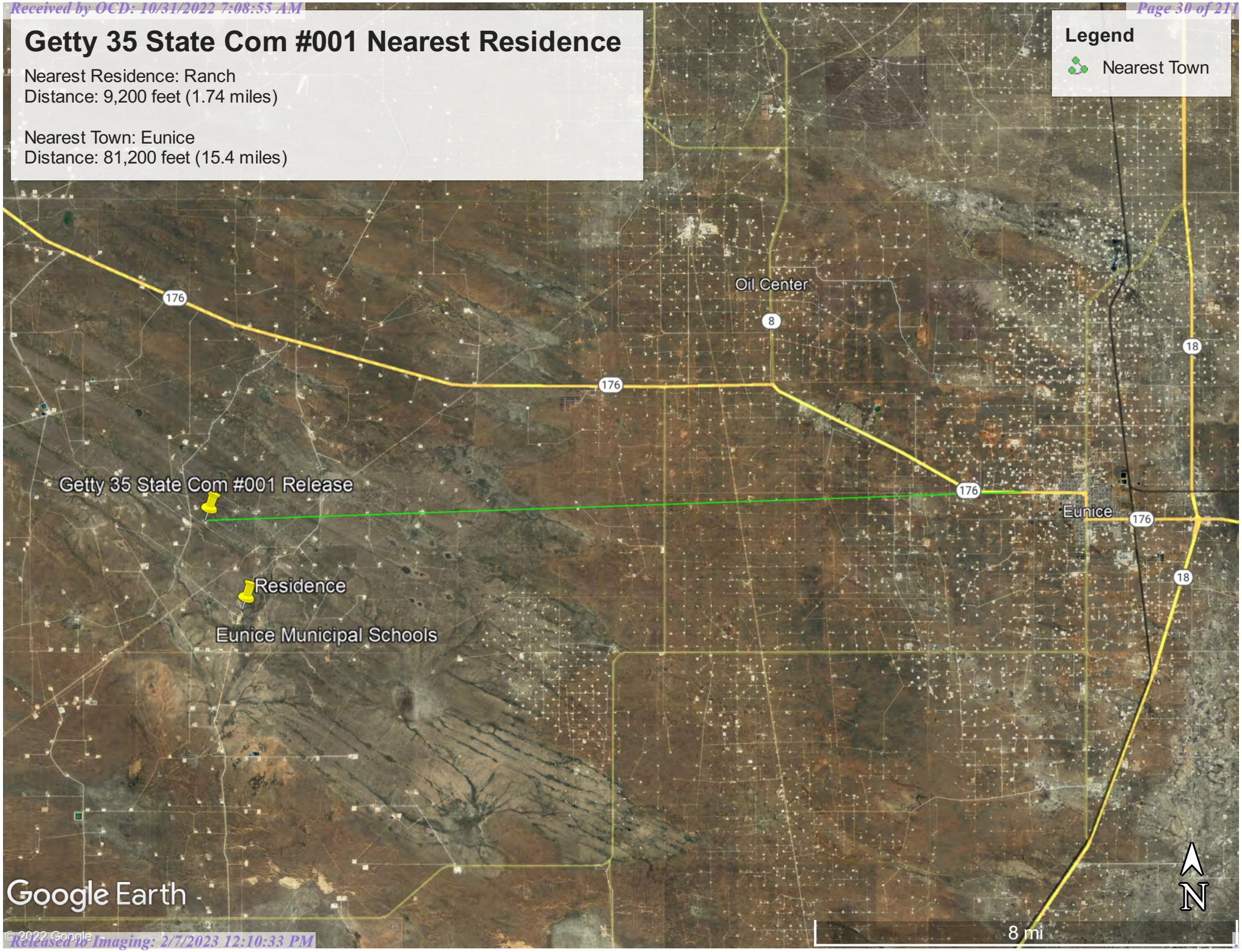
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

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

Getty 35 State Com #001 Nearest Residence

Nearest Residence: Ranch
Distance: 9,200 feet (1.74 miles)

Nearest Town: Eunice
Distance: 81,200 feet (15.4 miles)



New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	CP 00944 POD1	3	1		03	22S	34E	644531	3588351

Driller License: 1456 **Driller Company:** WHITE DRILLING COMPANY

Driller Name: WHITE, JOHN W

Drill Start Date: 03/05/2007 **Drill Finish Date:** 03/05/2007 **Plug Date:**

Log File Date: 03/22/2007 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: 5.00 **Depth Well:** 109 feet **Depth Water:** 70 feet

Water Bearing Stratifications:	Top	Bottom	Description
	62	72	Other/Unknown

Casing Perforations:	Top	Bottom
	57	97

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: CP 00964 **Subbasin:** CP **Cross Reference:** -

Primary Purpose: SAN 72-12-1 SANITARY IN CONJUNCTION WITH A COMMERCIAL USE

Primary Status: PMT PERMIT

Total Acres: 0 **Subfile:** - **Header:** -

Total Diversion: 1 **Cause/Case:** -

Agent: ENSTOR GRAMA RIDGE TRANSPORATION AND STORAGE LLC

Contact: RON ROUTLEDGE

x

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	550914	72121	2007-05-10	PMT	APR	CP 00964	T		1	

x

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
CP 00944 POD1		Shallow	3	1		03	22S	34E	644531	3588351	

New Mexico Office of the State Engineer
Transaction Summary

72121 All Applications Under Statute 72-12-1

Transaction Number: 550914 **Transaction Desc:** CP 00964 **File Date:** 05/07/2007

Primary Status: PMT Permit
Secondary Status: APR Approved
Person Assigned: *******
Applicant: ENSTOR GRAMA RIDGE
Contact: RON ROUTLEDGE

Events

	Date	Type	Description	Comment	Processed By
get images	05/07/2007	APP	Application Received	*	*******
	05/10/2007	FIN	Final Action on application		*******
	05/10/2007	WAP	General Approval Letter		*******
	06/10/2007	CN5	Meter Installation Request		*******
	02/01/2017	QAT	Quality Assurance Completed	SQ2	*******
	02/02/2017	QAT	Quality Assurance Completed	IMAGE	*******

Change To:

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
CP 00964		1		
**Point of Diversion				
CP 00944 POD1		644531	3588351	

Remarks

ABSTRACTOR NOTE: THIS APPLICATION USES POD CP-944 POD1.

Conditions

5B A totalizing meter shall be installed before the first branch of the discharge line from the well and the installation shall be acceptable to the State Engineer; the Engineer shall be advised of the make, model, serial number, date of installation, and initial reading of the meter prior to appropriation of water; pumping records shall be submitted to the District Supervisor on or before the 10th of Jan., April, July and Oct. of each year for the 3 preceding calendar months.

10 Total diversion from all wells under this permit number shall not exceed 1 acre-feet per annum.

13 This permit authorizes the diversion of water for drinking and sanitary uses that are incidental to the operations of a governmental, commercial, or non-profit facility. The total diversion of water under this permit shall not exceed 1 acre-feet per year. Water may not be used under this type of permit for any commercial use

such as the manufacture of a product, car wash, water bottling, concrete batching, or the irrigation of crops grown for commercial sale.

18 Any diversion of water made in excess of the authorized maximum diversion amount shall be repaid with twice the amount of the over-diversion during the following calendar year. Repayment shall be made by either: (a) reducing the diversion from the well that is the source of the over-diversion; or (b) acquiring or leasing a valid, existing consumptive use water right in an amount equal to the repayment amount and submitting to the State Engineer for his approval a plan for the proposed repayment.

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x

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved

Action Date: 05/10/2007

State Engineer: Tom Blaine, P.E.

9/27/22 11:22 AM TRANSACTION SUMMARY

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	CP 01787 POD1	1	2	4	35	21S	34E	647127	3589631

x

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: **Depth Well:** **Depth Water:**

x

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	CP 01787 POD2	3	2	4	35	21S	34E	647179	3589579

x

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: **Depth Well:** **Depth Water:**

x

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	CP 01787 POD3	4	2	4	35	21S	34E	647222	3589561

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: **Depth Well:** **Depth Water:**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 645764 **Transaction Desc:** CP 01787 POD1-3 **File Date:** 04/08/2019

Primary Status: PMT Permit
Secondary Status: PRC Processed
Person Assigned: *******
Applicant: MARATHON OIL COMPANY
Contact: STEPHANIE HINDS

Events

	Date	Type	Description	Comment	Processed By
get images	04/08/2019	APP	Application Received	*	*******
get images	04/08/2019	TEC	Technical Report	*PLUG PLAN CP-	*******
get images	04/08/2019	TEC	Technical Report	*PLUG PLAN CP-	*******
get images	04/08/2019	TEC	Technical Report	*PLUG PLAN CP-	*******
	04/16/2019	FTN	Finalize non-published Trans.		*******
	05/06/2019	QAT	Quality Assurance Completed	DATA	*******
	05/20/2019	QAT	Quality Assurance Completed	IMAGE	*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
CP 01787	0	0		EXP EXPLORATION
**Point of Diversion				
CP 01787 POD1		647127	3589631	
CP 01787 POD2		647179	3589579	
CP 01787 POD3		647222	3589561	

Remarks

"SOIL BORINGS WILL BE DRILLED FOR INVESTIGATIVE PURPOSES, WHICH IS TO DELINEATE THE VERTICAL EXTENT OF CHLORIDE CONTAMINATION DUE TO PRODUCED WATER RELEASED AT THE STATE AA#1 SWD."

"GROUNDWATER MAY BE AS SHALLOW AS 30 FEET. TEMPORARY WELLS WILL BE INSTALLED IF CONTAMINATION IS SHOWN TO EXTEND TO GROUNDWATER. IF CHLORIDE CONTAMINATION CLEANS UP PRIOR TO REACHING GROUNDWATER, THEN NO WELLS WILL BE INSTALLED."

Conditions

1B Depth of the well shall not exceed the thickness of the Ogallala formation.

4 No water shall be appropriated and beneficially used under this permit.

B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.

C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record. The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.

C2 No water shall be diverted from this well except for testing purposes which shall not exceed ten (10) cumulative days, and well shall be plugged or capped on or before , unless a permit to use water from this well is acquired from the Office of the State Engineer.

6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable

7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.

Q The State Engineer retains jurisdiction over this permit.

R Pursuant to section 72-8-1 NMSA 1978, the permittee shall allow the State Engineer and OSE representatives entry upon private property for the performance of their respective duties, including access to the ditch or acequia to measure flow and also to the well for meter reading and water level measurement.

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Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved

Action Date: 04/16/2019

Log Due Date: 04/15/2020

State Engineer: John R. D Antonio,

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: CP 01787 **Subbasin:** CP **Cross Reference:** -

Primary Purpose: EXP EXPLORATION

Primary Status: PMT PERMIT

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

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

Owner: SOUDER MILLER & ASSOCIATES

Contact: STEPHANIE HINDS

x

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	645764	EXPL	2019-04-16	PMT	PRC	CP 01787 POD1-3	T	0	0	

x

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
CP 01787 POD1	NA		1	2	4	35	21S	34E	647127	3589631	
CP 01787 POD2	NA		3	2	4	35	21S	34E	647179	3589579	
CP 01787 POD3	NA		4	2	4	35	21S	34E	647222	3589561	

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(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)

(acre ft per annum)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q 64	q 16	q 4	Sec	Twn	Rng	X	Y	Distance
CP 01912	CP	EXP	0	MARATHON OIL	LE	CP 01912	NA				1	2	3	35	21S	34E	646311	3589704	44
CP 01787	CP	EXP	0	SOUDER MILLER & ASSOCIATES	LE	CP 01787 POD1	NA				1	2	4	35	21S	34E	647127	3589631	822
					LE	CP 01787 POD2					3	2	4	35	21S	34E	647178	3589579	877
					LE	CP 01787 POD3					4	2	4	35	21S	34E	647222	3589561	922
CP 01253	CP	PRO	0	CAZA OPERTING LLC	LE	CP 01253 POD1					4	3	4	27	21S	34E	645222	3590642	1461
CP 01254	CP	PRO	0	CAZA OPERATING LLC	LE	CP 01253 POD1					4	3	4	27	21S	34E	645222	3590642	1461
CP 01255	CP	PRO	0	CAZA OPERATING LLC	LE	CP 01253 POD1					4	3	4	27	21S	34E	645222	3590642	1461
CP 00944	CP	EXP	0	ENSTOR GRAMA RIDGE STORAGE	LE	CP 00944 POD1				Shallow		3	1	03	22S	34E	644530	3588351	2204
CP 00964	CP	SAN	1	ENSTOR GRAMA RIDGE TRANSPORATION AND STORAGE LLC	LE	CP 00944 POD1				Shallow		3	1	03	22S	34E	644530	3588351	2204
CP 00092	CP	COM	23.5	WILSON OIL COMPANY	LE	CP 00092 POD1					1	3	1	25	21S	34E	647479	3591694*	2348
CP 00934	CP	PRO	0	CIMAREX ENERGY OF COLORADO	LE	CP 00934				Shallow	2	1	2	01	22S	34E	648682	3588822	2520
CP 00933	CP	DOM	3	THE MERCHANT LIVESTOCK COMPANY	LE	CP 00933				Shallow	1	1	1	12	22S	34E	647541	3587246*	2712
CP 00588	CP	PLS	3	THE MERCHANT LIVESTOCK COMPANY	LE	CP 00588 POD1				Shallow		3	2	33	21S	34E	643583	3589918*	2734
CP 00589	CP	PLS	3	THE MERCHANT LIVESTOCK COMPANY	LE	CP 00589 POD1				Shallow		3	2	33	21S	34E	643583	3589918*	2734
CP 01775	CP	EXP	0	XRI HOLDINGS, LLC	LE	CP 01775 POD1	NA				2	4	4	22	21S	34E	645583	3592370	2804
CP 00599	CP	PLS	3	THE MERCHANT LIVESTOCK COMPANY	LE	CP 00599 POD1				Shallow		1	1	12	22S	34E	647642	3587147*	2846
CP 00668	CP	STK	3	MERCHANT LIVESTOCK CO	LE	CP 00668						4	4	23	21S	34E	647166	3592393*	2865
CP 01069	CP	STK	3	GLENN'S WATER WELL SVC, INC.	LE	CP 01069 POD1				Shallow	2	1	4	28	21S	34E	643737	3591191	2989
CP 01079	CP	PRO	0	GLENN'S WATER WELL SRVC, INC.	LE	CP 01069 POD1				Shallow	2	1	4	28	21S	34E	643737	3591191	2989
CP 01139	CP	PRO	0	COG OPERATING	LE	CP 01069 POD1				Shallow	2	1	4	28	21S	34E	643737	3591191	2989
CP 01186	CP	COM	200	MERCHANT LIVESTOCK CO	LE	CP 01069 POD1				Shallow	2	1	4	28	21S	34E	643737	3591191	2989
CP 01239	CP	PRO	0	COG OPERATING	LE	CP 01069 POD1				Shallow	2	1	4	28	21S	34E	643737	3591191	2989
CP 01241	CP	PRO	0	COG OPERATING	LE	CP 01069 POD1				Shallow	2	1	4	28	21S	34E	643737	3591191	2989
CP 01242	CP	PRO	0	COG OPERATING	LE	CP 01069 POD1				Shallow	2	1	4	28	21S	34E	643737	3591191	2989
CP 01440	CP	COM	150	MERCHANT LIVESTOCK CO	LE	CP 01069 POD1				Shallow	2	1	4	28	21S	34E	643737	3591191	2989
CP 01875	CP	MON	0	CONOCO PHILLIPS	LE	CP 01875 POD1	NA				3	1	1	06	22S	35E	649184	3588789	3007
CP 01068	CP	STK	3	GLENN'S WATER WELL SVC, INC.	LE	CP 01068 POD1				Shallow	4	1	4	28	21S	34E	643609	3591005	3012
CP 01081	CP	PRO	0	TD WATER SERVICES	LE	CP 01068 POD1				Shallow	4	1	4	28	21S	34E	643609	3591005	3012
CP 01082	CP	PRO	0	TONYA'S PERMIT SERVICE	LE	CP 01068 POD1				Shallow	4	1	4	28	21S	34E	643609	3591005	3012
CP 01083	CP	PRO	0	GLENN'S WATER WELL SRVC, INC.	LE	CP 01068 POD1				Shallow	4	1	4	28	21S	34E	643609	3591005	3012
CP 01186	CP	COM	200	ATKINS ENGR ASSOC INC	LE	CP 01068 POD1				Shallow	4	1	4	28	21S	34E	643609	3591005	3012
CP 01217	CP	PRO	0	COG OPERATING	LE	CP 01068 POD1				Shallow	4	1	4	28	21S	34E	643609	3591005	3012
CP 01218	CP	PRO	0	COG OPERATING	LE	CP 01068 POD1				Shallow	4	1	4	28	21S	34E	643609	3591005	3012
CP 01230	CP	PRO	0	COG OPERATING	LE	CP 01068 POD1				Shallow	4	1	4	28	21S	34E	643609	3591005	3012
CP 01440	CP	COM	150	ATKINS ENGR ASSOC INC	LE	CP 01068 POD1				Shallow	4	1	4	28	21S	34E	643609	3591005	3012
CP 01875	CP	MON	0	CONOCO PHILLIPS	LE	CP 01875 POD2	NA				2	1	1	06	22S	35E	649206	3588821	3019
					LE	CP 01875 POD3					4	1	1	06	22S	35E	649211	3588790	3033
CP 00380	CP	PRO	3	MERCHANT LIVESTOCK CO	LE	CP 00380				Shallow		4	2	11	22S	34E	647245	3586739*	3068
CP 00596	CP	PLS	3	THE MERCHANT LIVESTOCK COMPANY	LE	CP 00596 POD1				Shallow		4	2	11	22S	34E	647245	3586739*	3068
CP 00751	CP	DOM	3	MERCHANT LIVESTOCK CO	LE	CP 00751				Shallow		4	2	11	22S	34E	647245	3586739*	3068
CP 01066	CP	STK	1	GLENN'S WATER WELL SRVC, INC.	LE	CP 01066 POD1				Shallow	4	3	2	28	21S	34E	643735	3591345	3073
CP 01078	CP	PRO	0	GLENN'S WATER WELL SRVC, INC.	LE	CP 01066 POD1				Shallow	4	3	2	28	21S	34E	643735	3591345	3073
CP 01138	CP	PRO	0	GLENN'S WATER WELL SERVICE,INC	LE	CP 01066 POD1				Shallow	4	3	2	28	21S	34E	643735	3591345	3073
CP 01186	CP	COM	200	ATKINS ENGR ASSOC INC	LE	CP 01066 POD1				Shallow	4	3	2	28	21S	34E	643735	3591345	3073
CP 01244	CP	PRO	0	COG OPERATING	LE	CP 01066 POD1				Shallow	4	3	2	28	21S	34E	643735	3591345	3073
CP 01246	CP	PRO	0	COG OPERATING	LE	CP 01066 POD1				Shallow	4	3	2	28	21S	34E	643735	3591345	3073
CP 01247	CP	PRO	0	COG OPERATING	LE	CP 01066 POD1				Shallow	4	3	2	28	21S	34E	643735	3591345	3073
CP 01440	CP	COM	150	ATKINS ENGR ASSOC INC	LE	CP 01066 POD1				Shallow	4	3	2	28	21S	34E	643735	3591345	3073
CP 01805	CP	EXP	0	ATKINS ENGR ASSOC INC	LE	CP 01805 POD1	NA			Shallow	3	1	3	30	21S	35E	649025	3591127	3090

CP 01781	CP	COM	0	XRI HOLDINGS, LLC	LE	CP 01781 POD1	NA		3	2	3	23	21S	34E	646204	3592761	3103
CP 01094	CP	MON	0	CASCATA RESOURCES LLC	LE	CP 00320 POD1			4	1	3	23	21S	34E	645995	3592764	3119
CP 00571	CP	STK	3	POGO PRODUCING COMPANY	LE	CP 00571 POD1		Shallow	3	1	4	28	21S	34E	643499	3591063	3137
CP 01041	CP	PRO	0	TD WATER SERVICES	LE	CP 00571 POD1		Shallow	3	1	4	28	21S	34E	643499	3591063	3137
CP 01054	CP	PRO	0	YATES PETROLEUM	LE	CP 00571 POD1		Shallow	3	1	4	28	21S	34E	643499	3591063	3137
CP 01062	CP	PRO	0	GLENN'S WATER WELL SRVC, INC.	LE	CP 00571 POD1		Shallow	3	1	4	28	21S	34E	643499	3591063	3137
CP 01063	CP	PRO	0	TD WATER SERVICES	LE	CP 00571 POD1		Shallow	3	1	4	28	21S	34E	643499	3591063	3137
CP 01122	CP	PRO	0	BLUESTEM ENERGY	LE	CP 00571 POD1		Shallow	3	1	4	28	21S	34E	643499	3591063	3137
CP 01123	CP	PRO	0	BLUESTEM ENERGY	LE	CP 00571 POD1		Shallow	3	1	4	28	21S	34E	643499	3591063	3137
CP 01124	CP	PRO	0	BLUESTEM ENERGY	LE	CP 00571 POD1		Shallow	3	1	4	28	21S	34E	643499	3591063	3137
CP 01186	CP	COM	200	MERCHANT LIVESTOCK CO	LE	CP 00571 POD1		Shallow	3	1	4	28	21S	34E	643499	3591063	3137
CP 01223	CP	PRO	0	COG OPERATING	LE	CP 00571 POD1		Shallow	3	1	4	28	21S	34E	643499	3591063	3137
CP 01224	CP	PRO	0	COG OPERATING	LE	CP 00571 POD1		Shallow	3	1	4	28	21S	34E	643499	3591063	3137
CP 01225	CP	PRO	0	COG OPERATING	LE	CP 00571 POD1		Shallow	3	1	4	28	21S	34E	643499	3591063	3137
CP 00604	CP	PRO	0	GETTY OIL CO.	LE	CP 00604			1	4	4	01	22S	34E	648743	3587666*	3149
CP 01717	CP	COM	40	GLENNS WATER WELL SERVICE INC	LE	CP 01717 POD1	NA	Shallow	2	3	3	30	21S	35E	649217	3591004	3207
CP 01199	CP	STK	3	MERCHANT LIVESTOCK CO	LE	CP 01199 POD1		Shallow	1	4	3	30	21S	35E	649365	3590895	3300
CP 01382	CP	COM	100	MERCHANT LIVESTOCK CO	LE	CP 01199 POD1		Shallow	1	4	3	30	21S	35E	649365	3590895	3300
CP 01542	CP	PRO	0	COG OPERATING	LE	CP 01199 POD1		Shallow	1	4	3	30	21S	35E	649365	3590895	3300
CP 01543	CP	PRO	0	COG OPERATING	LE	CP 01199 POD1		Shallow	1	4	3	30	21S	35E	649365	3590895	3300
CP 01544	CP	PRO	0	COG OPERATING	LE	CP 01199 POD1		Shallow	1	4	3	30	21S	35E	649365	3590895	3300
CP 01801	CP	EXP	0	MERCHANT LIVESTOCK CO	LE	CP 01801 POD1	NA	Shallow	3	3	1	30	21S	35E	649052	3591562	3341
CP 01821	CP	EXP	0	ATKINS ENGR ASSOC INC	LE	CP 01821 POD1	NA		2	1	3	30	21S	35E	649180	3591391	3356
CP 01067	CP	STK	3	GLENN'S WATER WELL SVC, INC.	LE	CP 01067 POD1		Shallow	1	3	4	28	21S	34E	643446	3591434	3364
CP 01092	CP	PRO	0	GLENN'S WATER WELL SRVC, INC.	LE	CP 01067 POD1		Shallow	1	3	4	28	21S	34E	643446	3591434	3364
CP 01137	CP	PRO	0	GLENN'S WATER WELL SERVICE,INC	LE	CP 01067 POD1		Shallow	1	3	4	28	21S	34E	643446	3591434	3364
CP 01186	CP	COM	200	ATKINS ENGR ASSOC INC	LE	CP 01067 POD1		Shallow	1	3	4	28	21S	34E	643446	3591434	3364
CP 01271	CP	PRO	0	GMT EXPLORATION	LE	CP 01067 POD1		Shallow	1	3	4	28	21S	34E	643446	3591434	3364
CP 01272	CP	PRO	0	GLENNS WATER WELL SERVICE, INC	LE	CP 01067 POD1		Shallow	1	3	4	28	21S	34E	643446	3591434	3364
CP 01273	CP	PRO	0	GLENNS WATER WELL SERVICE,INC	LE	CP 01067 POD1		Shallow	1	3	4	28	21S	34E	643446	3591434	3364
CP 01440	CP	COM	150	ATKINS ENGR ASSOC INC	LE	CP 01067 POD1		Shallow	1	3	4	28	21S	34E	643446	3591434	3364
CP 01091	CP	STK	3	GLENN'S WATER WELL SERVICE	LE	CP 01091 POD1		Shallow	3	3	2	28	21S	34E	643446	3591434	3364
CP 01093	CP	PRO	0	GLENN'S WATER WELL SRVC, INC.	LE	CP 01091 POD1		Shallow	3	3	2	28	21S	34E	643446	3591434	3364
CP 01140	CP	PRO	0	COG OPERATING	LE	CP 01091 POD1		Shallow	3	3	2	28	21S	34E	643446	3591434	3364
CP 01186	CP	COM	200	MERCHANT LIVESTOCK CO	LE	CP 01091 POD1		Shallow	3	3	2	28	21S	34E	643446	3591434	3364
CP 01233	CP	PRO	0	COG OPERATING	LE	CP 01091 POD1		Shallow	3	3	2	28	21S	34E	643446	3591434	3364
CP 01234	CP	PRO	0	COG OPERATING	LE	CP 01091 POD1		Shallow	3	3	2	28	21S	34E	643446	3591434	3364
CP 01243	CP	PRO	0	COG OPERATING	LE	CP 01091 POD1		Shallow	3	3	2	28	21S	34E	643446	3591434	3364
CP 01440	CP	COM	150	ATKINS ENGR ASSOC INC	LE	CP 01091 POD1		Shallow	3	3	2	28	21S	34E	643446	3591434	3364
CP 01711	CP	COM	100	S2W WATER NM LLC	LE	CP 01711 POD1	NA		2	3	1	10	22S	34E	644445	3586812	3400
CP 01715	CP	COM	125	GLENNS WATER WELL SERVICE INC	LE	CP 01715 POD1	22283	Shallow	3	4	3	30	21S	35E	649505	3590816	3403
CP 00874	CP	PRO	0	DEL MAR DRILLING	LE	CP 00874 POD1			1	4	3	30	21S	35E	649466	3590921*	3403
CP 01820	CP	EXP	0	MERCHANT LIVESTOCK CO	LE	CP 01820 POD1	NA		2	1	3	30	21S	35E	649310	3591279	3413
CP 01716	CP	COM	45	GLENNS WATER WELL SERVICE INC	LE	CP 01716 POD1	NA	Shallow	3	2	3	30	21S	35E	649394	3591195	3450
CP 00917	CP	PRO	3	MERCHANT LIVESTOCK CO	LE	CP 00917 POD1		Shallow	3	2	3	30	21S	35E	649458	3591124	3476
CP 00968	CP	PRO	0	NOVA MUD	LE	CP 00917 POD1		Shallow	3	2	3	30	21S	35E	649458	3591124	3476
CP 00982	CP	PRO	0	NOVA MUD	LE	CP 00917 POD1		Shallow	3	2	3	30	21S	35E	649458	3591124	3476
CP 01025	CP	PRO	0	MEWBOURNE OIL	LE	CP 00917 POD1		Shallow	3	2	3	30	21S	35E	649458	3591124	3476
CP 01133	CP	PRO	0	COG OPERATING, LLC.	LE	CP 00917 POD1		Shallow	3	2	3	30	21S	35E	649458	3591124	3476
CP 01187	CP	COM	200	MERCHANT LIVESTOCK CO	LE	CP 00917 POD1		Shallow	3	2	3	30	21S	35E	649458	3591124	3476
CP 01248	CP	PRO	0	CAZA PETROLEUM	LE	CP 00917 POD1		Shallow	3	2	3	30	21S	35E	649458	3591124	3476
CP 01249	CP	PRO	0	CAZA PETROLEUM	LE	CP 00917 POD1		Shallow	3	2	3	30	21S	35E	649458	3591124	3476
CP 01281	CP	PRO	0	DEVON ENERGY CORPORATION	LE	CP 00917 POD1		Shallow	3	2	3	30	21S	35E	649458	3591124	3476
CP 01439	CP	COM	150	ATKINS ENGR ASSOC INC	LE	CP 00917 POD1		Shallow	3	2	3	30	21S	35E	649458	3591124	3476
CP 01200	CP	STK	3	MERCHANT LIVESTOCK CO	LE	CP 01200 POD1		Shallow	3	2	3	30	21S	35E	649464	3591135	3487
CP 01281	CP	COM	100	ATKINS ENGR ASSOC INC	LE	CP 01200 POD1		Shallow	3	2	3	30	21S	35E	649464	3591135	3487

CP 01548	CP	PRO	0	DEVON ENERGY	LE	CP 01200 POD1		Shallow	3	2	3	30	21S	35E	649464	3591135	3487
CP 01549	CP	PRO	0	DEVON ENERGY	LE	CP 01200 POD1		Shallow	3	2	3	30	21S	35E	649464	3591135	3487
CP 01550	CP	PRO	0	DEVON ENERGY	LE	CP 01200 POD1		Shallow	3	2	3	30	21S	35E	649464	3591135	3487
CP 01198	CP	STK	3	ATKINS ENGR ASSOC INC	LE	CP 01198 POD1		Shallow	3	2	3	30	21S	35E	649544	3591027	3516
CP 01384	CP	COM	100	MERCHANT LIVESTOCK CO	LE	CP 01198 POD1		Shallow	3	2	3	30	21S	35E	649544	3591027	3516
CP 01545	CP	PRO	0	DEVON ENERGY	LE	CP 01198 POD1		Shallow	3	2	3	30	21S	35E	649544	3591027	3516
CP 01546	CP	PRO	0	DEVON ENERGY	LE	CP 01198 POD1		Shallow	3	2	3	30	21S	35E	649544	3591027	3516
CP 01547	CP	PRO	0	DEVON ENERGY	LE	CP 01198 POD1		Shallow	3	2	3	30	21S	35E	649544	3591027	3516
CP 01804	CP	EXP	0	MERCHANT LIVESTOCK CO	LE	CP 01804 POD1	NA		4	4	3	30	21S	35E	649731	3590709	3583
L 13432	L	PRO	0	PETROLEUM CAZA	LE	L 13432			2	4	3	30	21S	35E	649706	3590960	3641
CP 01778	CP	COM	0	XRI HOLDINGS, LLC	LE	CP 01778 POD1	NA		1	3	2	23	21S	34E	646725	3593283	3647
CP 00866	CP	PRO	3	MERCHANT LIVESTOCK CO	LE	CP 00866 POD1		Shallow	2	2	3	30	21S	35E	649739	3590942	3666
CP 00870	CP	PRO	0	RAND PAULSON	LE	CP 00866 POD1		Shallow	2	2	3	30	21S	35E	649739	3590942	3666
CP 00963	CP	PRO	0	MEWBOURNE OIL CO	LE	CP 00866 POD1		Shallow	2	2	3	30	21S	35E	649739	3590942	3666
CP 00969	CP	PRO	0	NOVA MUD	LE	CP 00866 POD1		Shallow	2	2	3	30	21S	35E	649739	3590942	3666
CP 00984	CP	PRO	0	MEWBOURNE OIL	LE	CP 00866 POD1		Shallow	2	2	3	30	21S	35E	649739	3590942	3666
CP 01135	CP	PRO	0	DEVON ENERGY	LE	CP 00866 POD1		Shallow	2	2	3	30	21S	35E	649739	3590942	3666
CP 01187	CP	COM	200	MERCHANT LIVESTOCK CO	LE	CP 00866 POD1		Shallow	2	2	3	30	21S	35E	649739	3590942	3666
CP 01232	CP	PRO	0	CAZA PETROLEUM	LE	CP 00866 POD1		Shallow	2	2	3	30	21S	35E	649739	3590942	3666
CP 01282	CP	PRO	0	GLENN'S WATER WELL SERVICE	LE	CP 00866 POD1		Shallow	2	2	3	30	21S	35E	649739	3590942	3666
CP 01283	CP	PRO	0	AMTEX ENERGY	LE	CP 00866 POD1		Shallow	2	2	3	30	21S	35E	649739	3590942	3666
CP 01439	CP	COM	150	ATKINS ENGR ASSOC INC	LE	CP 00866 POD1		Shallow	2	2	3	30	21S	35E	649739	3590942	3666
CP 00635	CP	PRO	3	MERCHANT LIVESTOCK CO	LE	CP 00635 POD1		Shallow	2	4	3	30	21S	35E	649795	3590866	3692
CP 01136	CP	PRO	0	COG OPERATING, LLC.	LE	CP 00635 POD1		Shallow	2	4	3	30	21S	35E	649795	3590866	3692
CP 01187	CP	COM	200	MERCHANT LIVESTOCK CO	LE	CP 00635 POD1		Shallow	2	4	3	30	21S	35E	649795	3590866	3692
CP 01268	CP	PRO	0	AMTEX ENERGY	LE	CP 00635 POD1		Shallow	2	4	3	30	21S	35E	649795	3590866	3692
CP 01269	CP	PRO	0	AMTEX ENERGY	LE	CP 00635 POD1		Shallow	2	4	3	30	21S	35E	649795	3590866	3692
CP 01270	CP	PRO	0	AMTEX ENERGY	LE	CP 00635 POD1		Shallow	2	4	3	30	21S	35E	649795	3590866	3692
CP 01439	CP	COM	150	MERCHANT LIVESTOCK CO	LE	CP 00635 POD1		Shallow	2	4	3	30	21S	35E	649795	3590866	3692
CP 00744	CP	PRO	0	ORYX ENERGY	LE	CP 00744		Shallow		1	2	09	22S	34E	643618	3587091*	3717
CP 00916	CP	PRO	3	MERCHANT LIVESTOCK CO	LE	CP 00916 POD1		Shallow	1	3	4	30	21S	35E	649866	3590927	3779
CP 00983	CP	PRO	0	CHESAPEAKE OPERATING	LE	CP 00916 POD1		Shallow	1	3	4	30	21S	35E	649866	3590927	3779
CP 00990	CP	PRO	0	NOVA MUD	LE	CP 00916 POD1		Shallow	1	3	4	30	21S	35E	649866	3590927	3779
CP 01134	CP	PRO	0	GLENN'S WATER WELL SERVICE,INC	LE	CP 00916 POD1		Shallow	1	3	4	30	21S	35E	649866	3590927	3779
CP 01187	CP	COM	200	MERCHANT LIVESTOCK CO	LE	CP 00916 POD1		Shallow	1	3	4	30	21S	35E	649866	3590927	3779
CP 01278	CP	PRO	0	DEVON ENERGY CORPORATION	LE	CP 00916 POD1		Shallow	1	3	4	30	21S	35E	649866	3590927	3779
CP 01279	CP	PRO	0	DEVON ENERGY CORPORATION	LE	CP 00916 POD1		Shallow	1	3	4	30	21S	35E	649866	3590927	3779
CP 01280	CP	PRO	0	DEVON ENERGY CORPORATION	LE	CP 00916 POD1		Shallow	1	3	4	30	21S	35E	649866	3590927	3779
CP 01439	CP	COM	150	ATKINS ENGR ASSOC INC	LE	CP 00916 POD1		Shallow	1	3	4	30	21S	35E	649866	3590927	3779
CP 00898	CP	STK	0	MERCHANT LIVESTOCK CO	LE	CP 00898		Shallow		3	4	30	21S	35E	649969	3590828*	3845
CP 01777	CP	COM	0	XRI HOLDINGS, LLC	LE	CP 01777 POD1	NA		4	2	2	22	21S	34E	645658	3593508	3901
CP 00585	CP	PLS	3	THE MERCHANT LIVESTOCK COMPANY	LE	CP 00585 POD1		Shallow		1	4	30	21S	35E	649963	3591230*	3980
CP 00981	CP	PRO	0	SAMSON RESOURCES COMPANY	LE	CP 00981 POD1			1	4	4	30	21S	35E	650231	3590854	4104
CP 00090	CP	COM	42.9	WILSON OIL COMPANY	LE	CP 00090 POD1			2	2	2	23	21S	34E	647247	3593698*	4146
CP 00091	CP	COM	28.2	WILSON OIL COMPANY	LE	CP 00091 POD1			2	2	2	23	21S	34E	647247	3593698*	4146
CP 01917	CP	EXP	0	EXTEX OPERATING COMPANY	LE	CP 01917	NA		3	2	1	07	22S	35E	649613	3587149	4153
CP 00659	CP	PRO	0	AMOCO PRODUCTION COMPANY	LE	CP 00659				4	4	30	21S	35E	650372	3590833*	4232
CP 01128	CP	MON	0	ENERGEN RESOURCES CORPORATION	LE	CP 01128 POD4									650320	3588286	4243
CP 01711	CP	COM	100	S2W WATER NM LLC	LE	CP 01711 POD2	NA		3	3	3	10	22S	34E	644432	3585700	4379
CP 00583	CP	PRO	3	POGO PRODUCING COMPANY	LE	CP 00583		Shallow			3	21	21S	34E	642944	3592518*	4411
CP 01053	CP	PRO	0	YATES PETROLEUM	LE	CP 00583		Shallow			3	21	21S	34E	642944	3592518*	4411
CP 01640	CP	DOM	1	MERCHANT LIVESTOCK CO	LE	CP 01640 POD1			1	4	2	30	21S	35E	650340	3591643	4496
CP 00593	CP	PLS	3	THE MERCHANT LIVESTOCK COMPANY	LE	CP 00593 POD1		Shallow		4	4	06	22S	35E	650422	3587591*	4607
CP 01779	CP	COM	0	XRI HOLDINGS, LLC	LE	CP 01779 POD1	NA		4	1	4	14	21S	34E	646744	3594285	4646
CP 00597	CP	PLS	3	THE MERCHANT LIVESTOCK COMPANY	LE	CP 00597 POD1		Shallow		2	2	08	22S	34E	642410	3587074*	4675

CP 00622	CP	PRO	0	POGO PRODUCING CO.	LE	CP 00622				3	4	2	14	22S	34E	647164	3585030*		4709
CP 01913	CP	EXP	0	MARATHON OIL	LE	CP 01913 POD3	NA			1	4	2	08	22S	34E	642394	3586721		4891
CP 01780	CP	COM	0	XRI HOLDINGS, LLC	LE	CP 01780 POD1	NA			1	1	3	14	21S	34E	645832	3594530		4893
CP 01913	CP	EXP	0	MARATHON OIL	LE	CP 01913 POD1	NA		Shallow	1	4	2	08	22S	34E	642345	3586730		4925
					LE	CP 01913 POD2				1	4	2	08	22S	34E	642365	3586694		4930
CP 01795	CP	EXP	0	ATKINS ENGR ASSOC INC	LE	CP 01795 POD1	NA		Shallow	4	2	3	32	21S	35E	651257	3589579		4953

Record Count: 166

UTMNAD83 Radius Search (in meters):

Easting (X): 646305 **Northing (Y):** 3589660 **Radius:** 5000

Sorted by: Distance

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetland, 3,335 feet

September 27, 2022

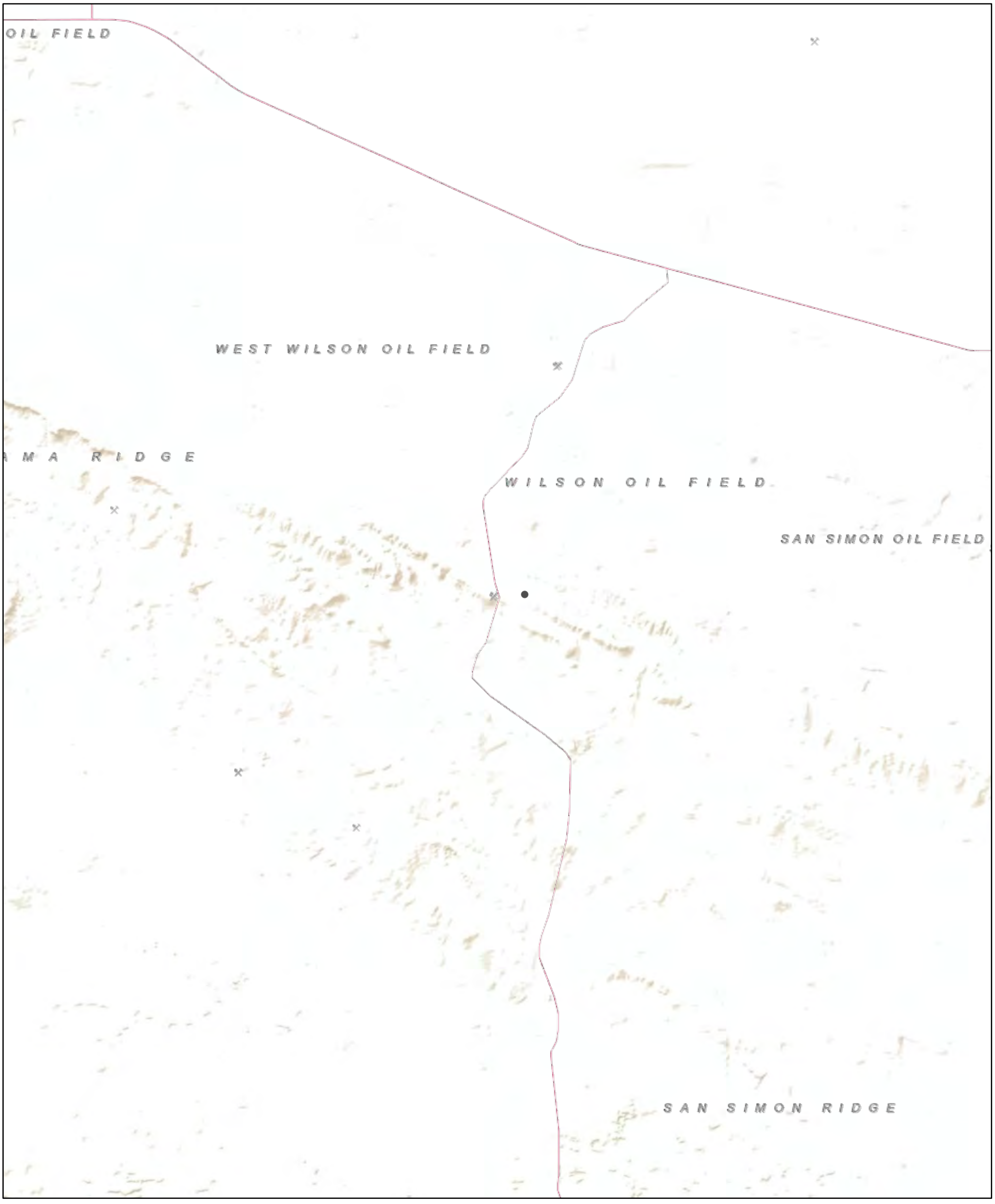
Wetlands

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

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

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

Active Mines in New Mexico



9/27/2022, 8:51:42 AM

Registered Mines

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

1:72,224

0 0.5 1 2 mi

0 1 2 4 km

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

EMNRD MMD GIS Coordinator

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

Karst Potential

- Critical
- High
- Medium
- Low

- Site Location
- Site Buffer (1,000 ft.)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft.

VERTEX

Map Center:
Lat/Long: 32.434806, -103.443748

NAD 1983 UTM Zone 13N
Date: Sep 08/22

N

Karst Potential
Getty 35 State Com #001

FIGURE:
X

Marathon Oil

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: Inset Map, ESRI 2021; Overview Map: ESRI World Topographic. Karst potential data sourced from Rosswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Marathon\22E-01931\Figure X Karst Potential Map Getty 35 State Com #001.mxd

National Flood Hazard Layer FIRMette

FEMA

103°26'56"W 32°26'19"N

103°26'19"W 32°25'49"N

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

1:6,000

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

Legend

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

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 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 9/27/2022 at 2:35 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.

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

September 27, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,610 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 20 40 80 120

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

Custom Soil Resource Report

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 18, Sep 10, 2021

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KO	Kimbrough gravelly loam, dry, 0 to 3 percent slopes	10.7	100.0%
Totals for Area of Interest		**10.7**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Lea County, New Mexico

KO—Kimbrough gravelly loam, dry, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2tw43
Elevation: 2,500 to 4,800 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 57 to 63 degrees F
Frost-free period: 180 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Kimbrough, dry, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kimbrough, Dry

Setting

Landform: Playa rims, plains
Down-slope shape: Convex, linear
Across-slope shape: Concave, linear
Parent material: Loamy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 3 inches: gravelly loam
Bw - 3 to 10 inches: loam
Bkkm1 - 10 to 16 inches: cemented material
Bkkm2 - 16 to 80 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 4 to 18 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 95 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R077DY049TX - Very Shallow 12-17" PZ
Hydric soil rating: No

Minor Components

Eunice

Percent of map unit: 10 percent
Landform: Plains
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R077DY049TX - Very Shallow 12-17" PZ
Hydric soil rating: No

Spraberry

Percent of map unit: 6 percent
Landform: Playa rims, plains
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: R077DY049TX - Very Shallow 12-17" PZ
Hydric soil rating: No

Kenhill

Percent of map unit: 4 percent
Landform: Plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R077DY038TX - Clay Loam 12-17" PZ
Hydric soil rating: No

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USDA Natural Resources Conservation Service

Ecological site R077DY049TX
Very Shallow 12-17" PZ

Accessed: 09/27/2022

General information

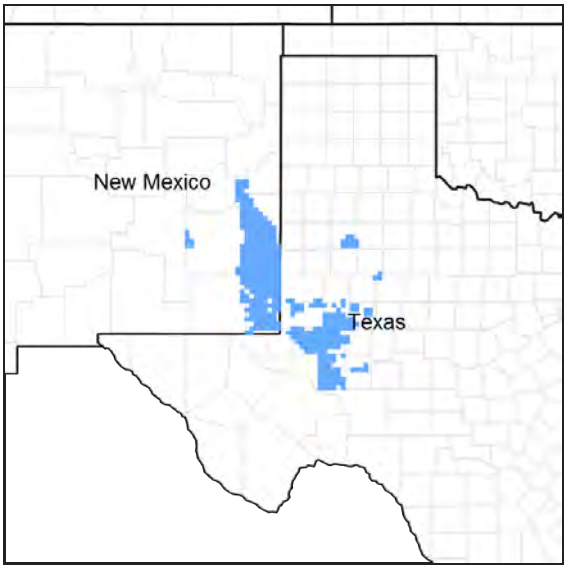


Figure 1. Mapped extent

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.

MLRA notes

Major Land Resource Area (MLRA): 077D–Southern High Plains, Southwestern Part

This MLRA 77D is characterized by nearly level to gently undulating plains with scattered playa depressions. Soil temperature regime is thermic and soil moisture regime is aridic bordering on ustic. Sandy and loamy soils are generally well drained and range from shallow to deep and medium- to coarse-textured. Native vegetation is short- to midgrasses and sandy sites support tallgrasses with sand shin oak and mesquite. Current land use is mainly rangeland, although irrigated cropland is expanding.

Classification relationships

This ecological site is correlated to soil components at the Major Land Resource Area (MLRA) level which is further described in USDA Ag Handbook 296.

Ecological site concept

These sites occur on very shallow soils on uplands. The reference vegetation consists of shortgrasses with some midgrasses and forbs. Woody species are rarely present in the reference plant community. Abusive grazing practices may lead to a decrease in palatable plants and a shift in the plant community. Woody species may increase in the absence of periodic fire.

Associated sites

R077DY042TX	**Limy Upland 12-17" PZ** Very shallow sites can be found adjacent to limy upland sites. The limy upland sites will occur as gently undulating soils that occur on broad upland plains.

Similar sites

R077DY048TX	**Shallow 12-17" PZ** Shallow sites will have similar vegetation with slightly higher production potential. Slopes will be less than very shallow sites.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	(1) *Bouteloua eriopoda* (2) *Bouteloua gracilis*

Physiographic features

Soils correlated in the MLRA 77D Very Shallow ecological site are very shallow to shallow to a petrocalcic horizon. They were formed in moderately fine textured eolian sediments of the Blackwater Draw Formation of Pleistocene age. These soils are typically on gently sloping plains, narrow ridges, and side slopes along draws. Slope ranges from 0 to 3 percent.

Landforms include Plain, Ridge, and Side slopes.

Table 2. Representative physiographic features

Landforms	(1) Plain (2) Ridge
Flooding frequency	None
Ponding frequency	None
Elevation	3,600–4,600 ft
Slope	0–3%
Water table depth	72 in
Aspect	Aspect is not a significant factor

Climatic features

Continental Steppe climate is prevalent in MLRA 77D. This climate type is typical of interiors of continents and is characterized by large variations in the magnitude of ranges in daily temperature extremes, low relative humidity, and irregularly spaced rainfall of moderate amounts. This climate regime is also known for being semi-arid with mild winters.

Droughts occur with monotonous frequency although there will be years having excessive precipitation resulting in large accumulations of water that little benefit is obtained from the rainfall events. If good rains occur in the spring and summer months, annual production will be favorable even if the remainder of the year is not favorable. Most of the annual precipitation occurs as a result from spring and early summer thunderstorms. Due to the fact that the area is mainly flat, local flooding may occur but only of short duration. There is very little precipitation and infrequent snowfall amounts in the winter.

During the late winter and early spring months, dust storms occur very frequently. The flat plains of the area contribute very little resistance to the strong winds. Dust in many of these storms remains in the air for several days after the storms have passed.

Daytime temperatures are warm in the summer but there is a large diurnal range and most nights are comfortable. In summers, the normal daily maximum temperatures are in the low to mid 90s and the normal minimum temperatures are in the upper 60s and low 70s. Even though the temperatures may be high, the low humidity and high evaporation rates create a cooling effect during the nighttime hours. Fall months exhibit extremely variable weather. Winters are mild and are characterized by frequent cold fronts accompanied by strong, gusty, northerly winds. Most of the cold fronts are dry as they pass through the area.

Table 3. Representative climatic features

Frost-free period (average)	211 days
Freeze-free period (average)	233 days
Precipitation total (average)	20 in

Influencing water features

None.

Soil features

The soils of this site are very shallow to shallow well drained, calcareous, gravelly soils. Permeability is moderate and runoff is low to medium. Parent material is a thin mantle of medium to moderately coarse textured eolian sediments over an indurated layer.

Major Soil Taxonomic Units correlated to this site include: Kimbrough soils (gravelly loam).

Table 4. Representative soil features

Surface texture	(1) Gravelly loam (2) Fine sandy loam
Family particle size	(1) Loamy
Drainage class	Well drained
Permeability class	Moderate
Soil depth	4–20 in
Surface fragment cover <=3"	15–35%
Surface fragment cover >3"	0–15%
Available water capacity (0-40in)	2–3 in
Calcium carbonate equivalent (0-40in)	0–10%
Electrical conductivity (0-40in)	0–2 mmhos/cm
Sodium adsorption ratio (0-40in)	0
Soil reaction (1:1 water) (0-40in)	7.4–8.4
Subsurface fragment volume <=3" (Depth not specified)	25–60%
Subsurface fragment volume >3" (Depth not specified)	0–5%

Ecological dynamics

The Reference Plant Community of the Very Shallow Ecological Site is a Shortgrass/Midgrass Community (1.1). Few if any tallgrass species will be found. Grass species account for 85 percent of the total site production. A wide variety of forbs are produced on this site producing 15 percent of the total annual production. Only trace amounts of woody shrubs will be found. This site occupies flat to moderately sloping upland areas. Slopes typically range from 1 to 12 percent. These are shallow to very shallow loam to fine sandy loam soils with a depth of 4 to 20 inches that are underlain by indurated caliche or soft caliche.

The dominant shortgrass species are black grama (*Bouteloua eriopoda*) and blue grama (*Bouteloua gracilis*), with lesser amounts of buffalograss (*Bouteloua dactyloides*), Wright threeawn (Aristida wrightii), hairy grama (*Bouteloua hirsuta*), and fall witchgrass (*Digitaria cognata*). The dominant midgrass species are sideoats grama (*Bouteloua curtipendula*), little bluestem (*Schizachyrium scoparium*), plains bristlegrass (*Setaria macrostachya*), Arizona cottontop (*Digitaria californica*), tobosagrass (*Pleuraphis mutica*), slim tridens (*Tridens muticus*), and lesser amounts of sand dropseed (*Sporobolus cryptandrus*) and Reverchon bristlegrass (*Setaria reverchonii*). A good variety of forbs exist but the amount varies greatly from year to year depending on moisture. The more commonly found forbs are dotted gayfeather (*Liatris punctata*), white prairie clover (*Dalea albiflora*), gaura spp. (Gaura spp.), bush sunflower (*Simsia calva*), orange zexmania (Zexmania hispida), trailing ratany (*Krameria lanceolata*), Oenothera spp. (Oenothera spp.), and rock daisy (Perityle spp.). The few shrubs that may be found on this site were feather dalea (Dalea Formosa), catclaw acacia (*Acacia greggii*), and vine ephedra (*Ephedra antisyphilitica*).

Fire plays a role in the ecology of this site as well as most other high plains sites. The general role of fire is to sustain the natural grassland and suppress shrubby species. Fire has helped to keep a balance between the grasses, forbs and shrubs. However, in the shortgrass region, fire is probably secondary to climate in promoting the historic vegetative state. A drier climate (<20 inches annual precipitation) creates a situation where the subsoil is dry more often than it is wet. Plant roots grow in response to moisture and this dryer climate favors shortgrasses with fibrous root systems or short rhizomatous grasses. Annual forbs are stimulated by fire and diversity is generally increased. Heavy grazing after a fire can have a negative effect if conditions are dry and remain so for an extended period.

Periodic overgrazing and trampling by migrating herds of bison and elk as well as resident herds of pronghorn antelope occurred during drought periods. Bison moved about in large herds over the region somewhat regulated by water sources and fire frequency. However, long rest periods followed once the large herds of bison moved out of the area, allowing the resilient grassland to re-establish and maintain its structure.

Variations in climatic factors, especially the amount and timing of precipitation, greatly influence the productivity of ecological sites and are largely responsible for the fluctuations in the amount of vegetative growth from one season to the next. It is not unusual for fluctuations of greater than 50 percent to occur from one year to another. These types of climatic variation are part of the overall environment in which the reference plant community developed. However, it needs to be pointed out that long-term drought (4 to 6 years of rainfall, 50 percent below the mean) can act in concert with other forces to affect changes in plant communities. For instance, extended drought weakens plants and makes them more susceptible to the effects of overgrazing. Drought conditions coupled with fire can be damaging and need long periods of time to fully recover. Extremely dry summers followed by wet winters can favor cool-season annual grasses at the expense of perennial warm-season species. A well-adapted, healthy community could better withstand such rigors of drought. However, even the reference community can experience damage that would result in some departure from the former stable state. Usually, the departure would be temporary.

When domestic livestock were brought to the plains in the 1870’s, it was largely an open range situation. By 1890, however, most of the area had been fenced and livestock were confined to these areas continually. Not understanding the limits of rangeland productivity, European settlers almost universally overstocked the area with domesticated livestock. As overgrazing occurred on this site, there was a reduction of the less grazing resistant midgrass species, a decline in mulch and organic matter, and consequently a reduction in intensity and frequency of fires. The shift in plant cover to less palatable shortgrass species and the decline in soil cover, favors woody plant encroachment.

With continuous heavy grazing, no fire, no brush management and/or pest management this site will transition to the Shortgrass/Shrub Community (1.2). As livestock and wildlife numbers increase and grazing use exceeds a plants ability to sustain defoliation, the more palatable and generally more productive species decline in stature,

productivity and density. The tendency of this site is to become a shortgrass dominant site if long-term grazing abuse occurs. This will lead to a decline in sideoats grama, blue grama and other palatable grass species. Black grama, dropseeds and tobosa will increase with an increase of hairy tridens (*Erioneuron pilosum*), and burrograss (*Scleropogon brevifolius*). Catclaw acacia will increase along with an invasion of broom snakeweed (*Gutierrezia sarothrae*), and mesquite (*Prosopis glandulosa*). The production of vegetation has shifted from mostly herbaceous vegetation to increasing amounts of woody shrubs. Herbaceous vegetation is still the largest production in this state. Nutrient cycling, the water cycle, watershed protection and biological functions have changed somewhat. This state can transition back to reference with good management practices such as prescribed grazing, brush management and pest management. In this state it is unlikely that prescribed burning could be used due to the limited fuel load and poor continuity to carry a fire.

If long-term, heavy grazing continues with no fire or any form of brush and pest management, a major threshold will be crossed to the Shrub/Shortgrass Community (2.1). In this state, mesquite, broom snakeweed and catclaw acacia will dominate the site. The typical shortgrass species will be perennial threeawns, hairy tridens and other invading low quality short grasses. Bare areas will increase with annuals filling the voids.

The loss of herbaceous cover and increased bare soil encourages accelerated erosion. Nutrient cycling, the water cycle, watershed protection and biological functions have been severely reduced.

The plant community is so degraded that it cannot reverse retrogression without extensive energy and management inputs. Prescribed grazing with rest periods during the growing season, re-seeding with adapted native grass species, chemical and/or mechanical brush management, and some form of pest management will be required to return this state back to reference. With the reduced amounts of grass fuel, poor continuity and increased bare soil, prescribed burning will not be an option in this state.

NOTE: Rangeland Health Reference Worksheets have been posted for this site on the Texas NRCS website (www.tx.nrcs.usda.gov) in Section II of the eFOTG under (F) Ecological Site Descriptions.

STATE AND TRANSITIONAL PATHWAYS: (DIAGRAM)

Narrative:
The following diagram suggests some pathways that the vegetation on this site might take. There may be other states not shown on the diagram. This information is intended to show what might happen in a given set of circumstances; it does not mean that this would happen the same way in every instance. Local professional guidance should always be sought before pursuing a treatment scenario.

State and transition model

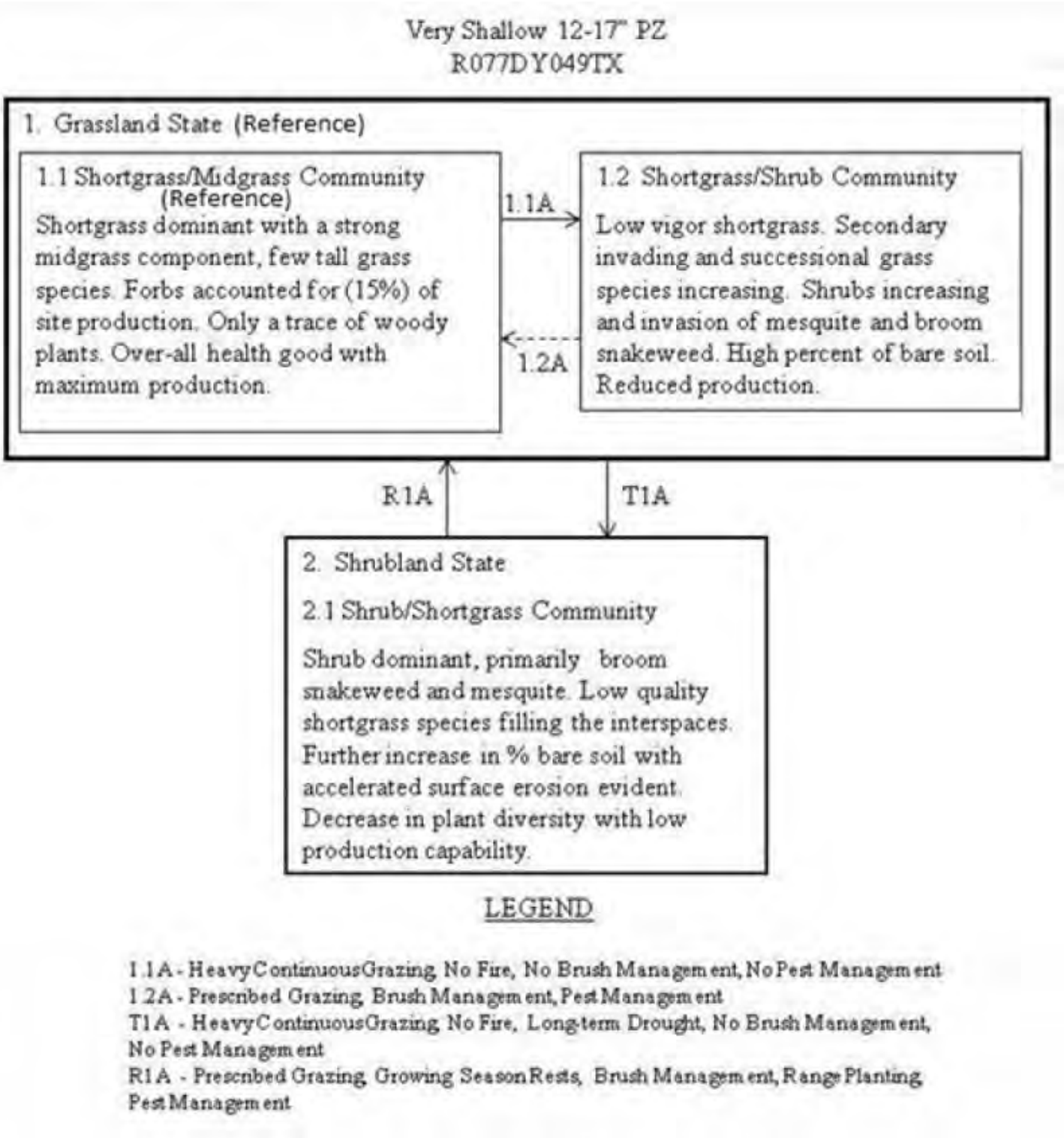


Figure 4. R077DY049TX

State 1
Grassland State

The Reference Plant Community was a Shortgrass/Midgrass Community (1.1). Few if any tallgrass species will be found. Grass species account for 85 percent of the total site production. A wide variety of forbs are produced on this site producing 15 percent of the total annual production and only trace amounts of woody shrubs will be found. With continuous heavy grazing, no fire, no brush management and/or pest management this site will transition to the Shortgrass/Shrub Community (1.2). As livestock and wildlife numbers increase and grazing use exceeds a plants ability to sustain defoliation, the more palatable and generally more productive species decline in stature, productivity and density. The tendency of this site is to become a shortgrass dominant site if long-term grazing abuse occurs. This will lead to a decline in sideoats grama, blue grama and other palatable grass species.

Community 1.1
Shortgrass/Midgrass Community

Figure 5. 1.1 Shortgrass/Midgrass Community

The Reference Plant Community of the Very Shallow Ecological Site is a Shortgrass/Midgrass Plant Community (1.1). Few if any tallgrass species will be found. Grass species account for 85 percent of the total site production. A wide variety of forbs are produced on this site producing 15 percent of the total annual production. Only trace amounts of woody shrubs will be found. The dominant shortgrass species are black grama and blue grama. Sideoats grama is the primary midgrass species. As overgrazing occurs on this site, there will be a reduction of the less grazing resistant midgrass species, a decline in mulch and organic matter, and consequently a reduction in intensity and frequency of fires. The shift in plant cover to less palatable shortgrass species and the decline in soil cover, favors woody plant encroachment. Proper grazing use, periodic brush and pest management and prescribed burning are required to maintain this community phase.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	285	618	950
Forb	15	32	50
Shrub/Vine	0	0	1
Tree	0	0	0
Microbiotic Crusts	0	0	0
Total	**300**	**650**	**1001**

Figure 7. Plant community growth curve (percent production by month). TX1251, Warm-season bunchgrasses w/ forbs & shrubs. Warm-season bunchgrasses with forbs and shrubs..

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	1	3	5	12	16	15	20	18	9	1	0

Community 1.2
Shortgrass/Shrubs Community

Figure 8. 1.2 Shortgrass/Shrubs Community

With continuous heavy grazing, no fire, no brush management and/or pest management this site will transition from to the Shortgrass/Shrub Community (1.2). As livestock and wildlife numbers increase and grazing use exceeds a plants ability to sustain defoliation, the more palatable and generally more productive species decline in stature, productivity and density. The tendency of this site is to become a shortgrass dominant site if long-term grazing abuse occurs. This will lead to a decline in sideoats grama, blue grama and other palatable grass species. Black grama, dropseeds and tobosa will increase with an invasion of hairy tridens, and burrograss. Catclaw acacia will increase along with an invasion of broom snakeweed, and mesquite. The production of vegetation has shifted from mostly herbaceous vegetation to increasing amounts of woody shrubs. Herbaceous vegetation is still the largest production in this state. This state can shift back to the reference community with good management practices such as prescribed grazing, brush management and pest management. In this state it is unlikely that prescribed burning could be used due to the limited fuel load and poor continuity to carry a fire.

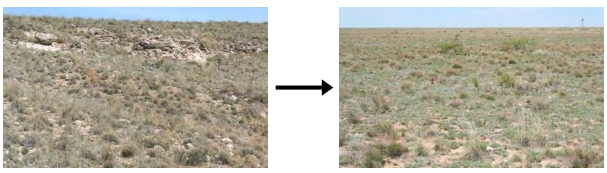
Table 6. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	200	350	500
Shrub/Vine	200	300	400
Forb	40	70	100
Tree	0	0	0
Microbiotic Crusts	0	0	0
Total	**440**	**720**	**1000**

Figure 10. Plant community growth curve (percent production by month). TX1252, Shortgrass Dominant/Invading Shrub Community. Warm-season shortgrasses with increasing shrubs and forbs..

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	1	3	5	12	16	15	20	18	9	1	0

Pathway 1.1A
Community 1.1 to 1.2



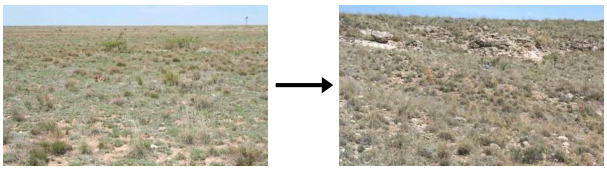
Shortgrass/Midgrass Community

Shortgrass/Shrubs Community

With continuous heavy grazing, no fire, no brush management and/or pest management this site will transition to

the Shortgrass/Shrub Community (1.2). As livestock and wildlife numbers increase and grazing use exceeds a plants ability to sustain defoliation, the more palatable and generally more productive species decline in stature, productivity and density.

Pathway 1.2A
Community 1.2 to 1.1



Shortgrass/Shrubs Community **Shortgrass/Midgrass Community**

This state can transition back the reference community with good management practices such as prescribed grazing, brush management and pest management.

Conservation practices

Brush Management
Integrated Pest Management (IPM)
Prescribed Grazing

State 2
Shrubland State

A major threshold will be crossed from the Grassland State (1.0) to the Shrubland State (2.0). In this state, mesquite, shrubs such as broom snakeweed and catclaw acacia will dominate the site. The typical shortgrass species will be perennial threeawns, hairy tridens and other invading low quality short grasses. Bare areas will increase with annuals filling the voids. The loss of herbaceous cover and increased bare soil encourages accelerated erosion, especially on sites with steeper slopes.

Community 2.1
Shrub/Shortgrass Community

Figure 11. 2.1 Shrub/Shortgrass Community

If long-term, heavy grazing continues with no fire or any form of brush and pest management, a major threshold will be crossed to the Shrub/Shortgrass Community (2.1). In this state, mesquite, broom snakeweed and catclaw acacia will dominate the site. The typical shortgrass species will be perennial threeawns, hairy tridens and other invading low quality short grasses. Bare areas will increase with annuals filling the voids. The loss of herbaceous cover and increased bare soil encourages accelerated erosion, especially on sites with steeper slopes. Nutrient cycling, the water cycle, watershed protection and biological functions have been severely reduced. The plant community is so degraded that it cannot reverse retrogression without extensive energy and management inputs.

Prescribed grazing with rest periods during the growing season, re-seeding with adapted native grass species, chemical and/or mechanical brush management, and some form of pest management will be required to return this state back to the reference state. With the reduced amounts of grass fuel, poor continuity and increased bare soil, prescribed burning will not be an option in this state.

Table 7. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Shrub/Vine	400	500	600
Grass/Grasslike	100	200	300
Forb	20	40	60
Microbiotic Crusts	0	0	0
Tree	0	0	0
Total	**520**	**740**	**960**

Figure 13. Plant community growth curve (percent production by month). TX1254, Shrub/Shortgrass/Annuals Community. Spring and fall growth of shortgrasses, annuals, and shrubs..

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	1	4	6	10	16	15	20	15	12	1	0

Transition T1A
State 1 to 2

If long-term, heavy grazing continues with no fire or any form of brush and pest management, a major threshold will be crossed to the Shrub/Shortgrass Community (2.1). In this state, mesquite, broom snakeweed and catclaw acacia will dominate the site. Bare areas will increase with annuals filling the voids.

Restoration pathway R2A
State 2 to 1

Prescribed grazing with rest periods during the growing season, re-seeding with adapted native grass species, chemical and/or mechanical brush management, and some form of pest management will be required to return this state back the reference. With the reduced amounts of grass fuel, poor continuity and increased bare soil, prescribed burning will not be an option in this state.

Conservation practices

Brush Management
Range Planting
Integrated Pest Management (IPM)
Prescribed Grazing

Additional community tables

Table 8. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1	**Shortgrasses**			105–350	
	black grama	BOER4	*Bouteloua eriopoda*	75–250	–
	blue grama	BOGR2	*Bouteloua gracilis*	30–100	–
2	**Midgrasses**			135–450	
	sideoats grama	BOCU	*Bouteloua curtipendula*	30–100	–
	little bluestem	SCSC	*Schizachyrium scoparium*	30–100	–
	large-spike bristlegrass	SEMA5	*Setaria macrostachya*	15–50	–
	Arizona cottontop	DICA8	*Digitaria californica*	15–50	–
	tobosagrass	PLMU3	*Pleuraphis mutica*	15–50	–
	slim tridens	TRMUE	*Tridens muticus var. elongatus*	15–50	–
	Reverchon's bristlegrass	SERE3	*Setaria reverchonii*	8–25	–
	sand dropseed	SPCR	*Sporobolus cryptandrus*	7–25	–
3	**Shortgrasses**			45–150	
	Wright's threeawn	ARPUW	*Aristida purpurea var. wrightii*	15–50	–
	buffalograss	BODA2	*Bouteloua dactyloides*	15–50	–
	hairy grama	BOHI2	*Bouteloua hirsuta*	8–25	–
	fall witchgrass	DICO6	*Digitaria cognata*	7–25	–
Forb					
4	**Forbs**			50–100	
	dotted blazing star	LIPU	*Liatris punctata*	8–16	–
	evening primrose	OENOT	*Oenothera*	6–12	–
	rockdaisy	PERIT	*Perityle*	6–12	–
	awnless bushsunflower	SICA7	*Simsia calva*	6–12	–
	whiteflower prairie clover	DAAL	*Dalea albiflora*	6–12	–
	beeblossom	GAURA	*Gaura*	6–12	–
	trailing krameria	KRLA	*Krameria lanceolata*	6–12	–
Shrub/Vine					
5	**Shrubs**			0–1	
	catclaw acacia	ACGRG3	*Acacia greggii var. greggii*	0–1	–
	featherplume	DAFO	*Dalea formosa*	0–1	–
	clapweed	EPAN	*Ephedra antisyphilitica*	0–1	–

Animal community

This site is inhabited by dove, quail, deer and pronghorn. Limited populations of pronghorn antelope frequent the site. The limited amount of woody plants does not provide good cover and food sources for deer.

Plant preference by animal kind:
This rating system provides general guidance as to animal preference for plant species. It also indicates possible competition between kinds of herbivores for various plants. Grazing preference changes from time to time, especially between seasons, and between animal kinds and classes. Grazing preference does not necessarily reflect the ecological status of the plant within the plant community. For wildlife, plant preferences for food and plant suitability for cover are rated.

Preferred (P) – Percentage of plant in animal diet is greater than it occurs on the land

Desirable (D) – Percentage of plant in animal diet is similar to the percentage composition on the land
Undesirable (U) – Percentage of plant in animal diet is less than it occurs on the land
Not Consumed (N) – Plant would not be eaten under normal conditions; only consumed when other forages not available.
Used, but degree of utilization unknown (X) – Percentage of plant in animal diet is unknown
Toxic (T) – Rare occurrence in diet and, if consumed in any tangible amounts results in death or severe illness in animal

Hydrological functions

Surface runoff is moderate to rapid on these soils due to the percent slope. Water erosion is slight where the vegetative cover is good, but overgrazed areas are subject to severe water erosion hazards.

Recreational uses

This site has very little value from an aesthetic standpoint. The site is occupied almost exclusively by native short and midgrass species with few woody shrubs. Recreational activities could include bird hunting, camping, hiking, bird watching, photography, and horseback riding.

Wood products

None.

Other products

None.

Other information

None.

Inventory data references

NRCS FOTG – Section II of the FOTG Range Site Descriptions and numerous historical accounts of vegetative conditions at the time of early settlement in the area were used in the development of this site description. Vegetative inventories were made at several site locations for support documentation.

Inventory Data References (documents):
NRCS FOTG – Section II - Range Site Descriptions
NRCS Clipping Data summaries over a 20 year period

Other references

J.R. Bell, USDA-NRCS Rangeland Management Specialist (retired)
Natural Resources Conservation Service - Range Site Descriptions
USDA-Natural Resources Conservation Service - Soil Surveys & Website soil database
Rathjen, Frederick W., The Texas Panhandle Frontier, Rev. 1998, Univ. of Texas Press
Hatch, Brown and Ghandi, Vascular Plants of Texas (An Ecological Checklist)
Texas A&M Exp. Station, College Station, Texas
Texas Tech University – Department of Natural Resources Management, Lubbock, Texas

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Contributors

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Acknowledgments

Site Development and Testing Plan

Future work, as described in a Project Plan, to validate the information in this Provisional Ecological Site Description is needed. This will include field activities to collect low, medium and high intensity sampling, soil correlations, and analysis of that data. Annual field reviews should be done by soil scientists and vegetation specialists. A final field review, peer review, quality control, and quality assurance reviews of the ESD will be needed to produce the final document.

Annual reviews of the Project Plan are to be conducted by the Ecological Site Technical Team.

Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	Stan Bradbury, Zone RMS, NRCS, Lubbock, Texas
Contact for lead author	806-791-0581
Date	02/09/2010
Approved by	Mark Moseley, RMS, NRCS, Boerne, Texas
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** Due to percent slopes, rills will be common.

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2. **Presence of water flow patterns:** Due to percent slopes, water flow patterns will be common.

---

3. **Number and height of erosional pedestals or terracettes:** Due to percent slopes, pedestals/terracettes will be common.

---

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 25-30% mineral soil, low percentage due to rock fragments scattered throughout the soil profile.

---

5. **Number of gullies and erosion associated with gullies:** None to slight.

---

6. **Extent of wind scoured, blowouts and/or depositional areas:** None to slight.

7. **Amount of litter movement (describe size and distance expected to travel):** None to slight.

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Moderate resistance to surface erosion.

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Loamy friable surface; low SOM.

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Low vegetative cover and percent slopes make this site susceptible to erosion. This site is a moderately permeable soil, runoff is medium and available water holding capacity is very low.

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None.

12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

    Dominant: Warm-season shortgrasses > Warm-season midgrasses >>

    Sub-dominant:

    Other: Forbs > Shrubs/Vines

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** Grasses due to their growth habit will exhibit some mortality and decadence, though minimal.

14. **Average percent litter cover (%) and depth (in):** Litter is dominantly herbaceous.

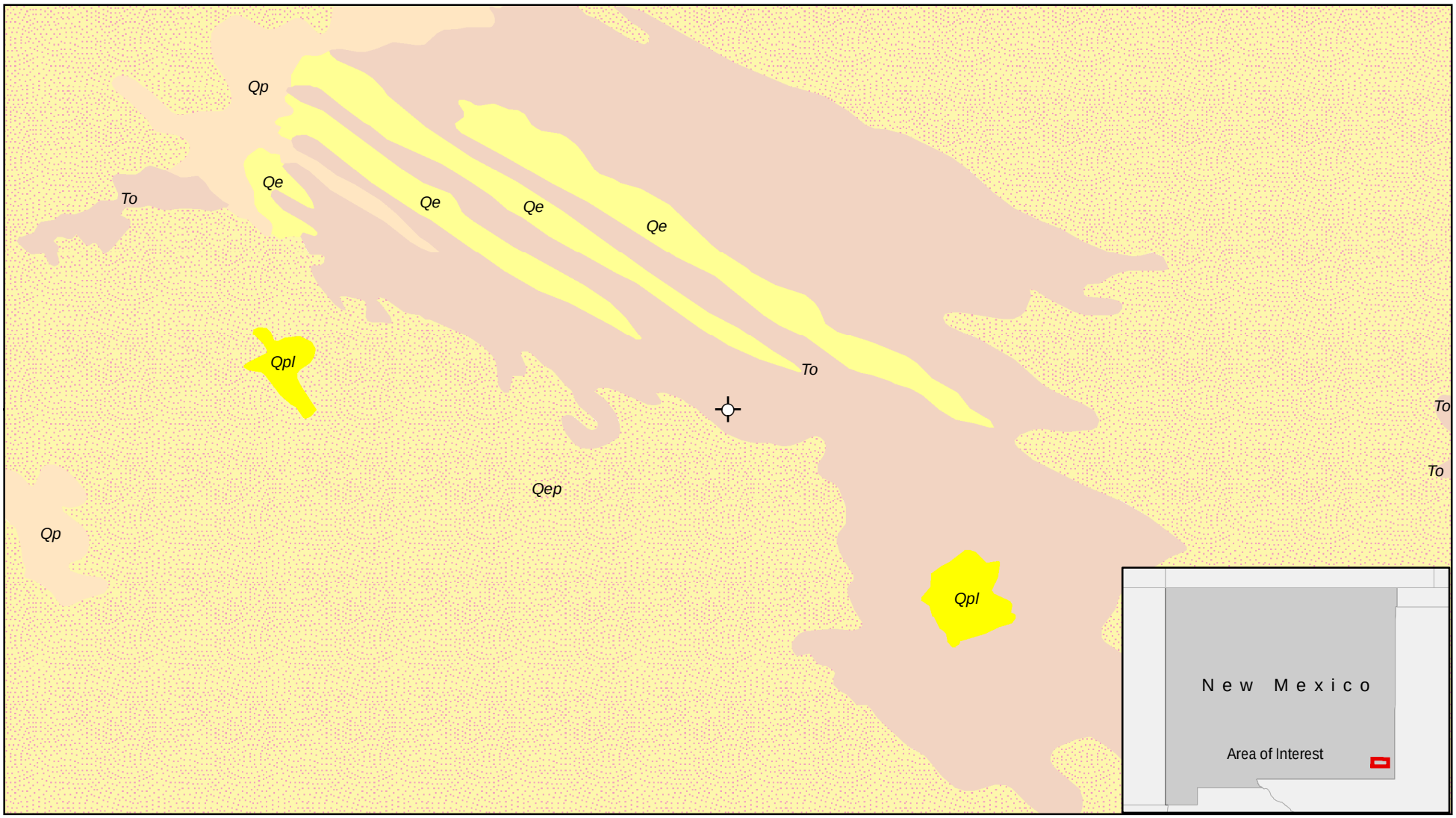
15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** 300 to 1,000 pounds per acre.

16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state**

for the ecological site: Catclaw acacia, broom snakeweed, and mesquite can become invasive.

---

17. **Perennial plant reproductive capability:** All plant species should be capable of reproduction, except during periods of prolonged drought conditions, heavy natural herbivory or intense wildfires.



Site Location

Lithologic Units

Qe Qep Qpl

Qp To

VERTEX

0 1.25 2.5 Miles

Map Center:
Lat/Long: 32.434464, -103.443763

NAD 1983 UTM Zone 13N

Date: Sep 08/22

N

Geology Getty 35 State Com #001

FIGURE:

G

MarathonOil

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: Geology data sourced from New Mexico Bureau of Geology & Mineral Resources, Bureau of Land Management.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Marathon\22E-01931\Figure G Geological Schematic Getty 35.mxd

ATTACHMENT 4

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

July 25, 2022

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

RE: Carlsbad OrderNo.: 2207413

Dear Melodie Sanjari:

Hall Environmental Analysis Laboratory received 18 sample(s) on 7/12/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Project: Carlsbad
Lab ID: 2207413-001 **Matrix:** SOIL

Client Sample ID: BH-22-01 0-1'
Collection Date: 7/5/2022 1:30:00 PM
Received Date: 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	1100	60		mg/Kg	20	7/15/2022 7:26:52 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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Client Sample ID: BH-22-02 0-1'
Project: Carlsbad
Collection Date: 7/5/2022 1:35:00 PM
Lab ID: 2207413-002 **Matrix:** SOIL **Received Date:** 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	7000	150		mg/Kg	10	7/15/2022 2:36:51 AM
Motor Oil Range Organics (MRO)	3100	500		mg/Kg	10	7/15/2022 2:36:51 AM
Surr: DNOP	0	51.1-141	S	%Rec	10	7/15/2022 2:36:51 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	24	D	mg/Kg	5	7/15/2022 6:59:00 AM
Surr: BFB	96.8	37.7-212	D	%Rec	5	7/15/2022 6:59:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.12	D	mg/Kg	5	7/15/2022 6:59:00 AM
Toluene	ND	0.24	D	mg/Kg	5	7/15/2022 6:59:00 AM
Ethylbenzene	ND	0.24	D	mg/Kg	5	7/15/2022 6:59:00 AM
Xylenes, Total	ND	0.47	D	mg/Kg	5	7/15/2022 6:59:00 AM
Surr: 4-Bromofluorobenzene	90.9	70-130	D	%Rec	5	7/15/2022 6:59:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	11000	600		mg/Kg	200	7/18/2022 9:47:48 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	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 range due to dilution or matrix interference

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Project: Carlsbad
Lab ID: 2207413-003 **Matrix:** SOIL

Client Sample ID: BH-22-04 0-1'
Collection Date: 7/5/2022 1:45:00 PM
Received Date: 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	3500	150		mg/Kg	50	7/18/2022 10:00:13 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Project: Carlsbad
Lab ID: 2207413-004 **Matrix:** SOIL

Client Sample ID: BH-22-05 0-1'
Collection Date: 7/5/2022 1:50:00 PM
Received Date: 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	2000	60		mg/Kg	20	7/15/2022 8:53:42 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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Client Sample ID: BH-22-06 0-1'
Project: Carlsbad
Collection Date: 7/5/2022 1:50:00 PM
Lab ID: 2207413-005 **Matrix:** SOIL **Received Date:** 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	760	60		mg/Kg	20	7/15/2022 9:06:07 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Client Sample ID: BH-22-07 0-1'
Project: Carlsbad
Collection Date: 7/5/2022 1:50:00 PM
Lab ID: 2207413-006 **Matrix:** SOIL **Received Date:** 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	300	15		mg/Kg	1	7/15/2022 8:23:31 PM
Motor Oil Range Organics (MRO)	420	49		mg/Kg	1	7/15/2022 8:23:31 PM
Surr: DNOP	74.5	51.1-141		%Rec	1	7/15/2022 8:23:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	23	D	mg/Kg	5	7/15/2022 7:19:00 AM
Surr: BFB	87.9	37.7-212	D	%Rec	5	7/15/2022 7:19:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.12	D	mg/Kg	5	7/15/2022 7:19:00 AM
Toluene	ND	0.23	D	mg/Kg	5	7/15/2022 7:19:00 AM
Ethylbenzene	ND	0.23	D	mg/Kg	5	7/15/2022 7:19:00 AM
Xylenes, Total	ND	0.46	D	mg/Kg	5	7/15/2022 7:19:00 AM
Surr: 4-Bromofluorobenzene	87.5	70-130	D	%Rec	5	7/15/2022 7:19:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	6700	300		mg/Kg	100	7/18/2022 10:12:37 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Project: Carlsbad
Lab ID: 2207413-007 **Matrix:** SOIL

Client Sample ID: BH-22-08 0-1'
Collection Date: 7/5/2022 1:55:00 PM
Received Date: 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	1500	61		mg/Kg	20	7/15/2022 9:55:44 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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Client Sample ID: BH-22-09 0-1'
Project: Carlsbad
Collection Date: 7/5/2022 1:55:00 PM
Lab ID: 2207413-008 **Matrix:** SOIL **Received Date:** 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	810	60		mg/Kg	20	7/15/2022 10:08:08 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Client Sample ID: BH-22-10 0-1'
Project: Carlsbad
Collection Date: 7/5/2022 2:00:00 PM
Lab ID: 2207413-009 **Matrix:** SOIL **Received Date:** 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	150	59		mg/Kg	20	7/15/2022 10:20:33 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Project: Carlsbad
Lab ID: 2207413-010 **Matrix:** SOIL

Client Sample ID: BH-22-11 0-1'
Collection Date: 7/5/2022 2:00:00 PM
Received Date: 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	710	60		mg/Kg	20	7/15/2022 10:32:57 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Project: Carlsbad
Lab ID: 2207413-011 **Matrix:** SOIL

Client Sample ID: BH-22-12 0-1'
Collection Date: 7/5/2022 2:05:00 PM
Received Date: 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	660	60		mg/Kg	20	7/15/2022 10:45:21 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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Client Sample ID: BH-22-14 0-1'
Project: Carlsbad
Collection Date: 7/5/2022 2:10:00 PM
Lab ID: 2207413-012 **Matrix:** SOIL **Received Date:** 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	230	14		mg/Kg	1	7/18/2022 7:28:51 PM
Motor Oil Range Organics (MRO)	210	47		mg/Kg	1	7/18/2022 7:28:51 PM
Surr: DNOP	62.2	51.1-141		%Rec	1	7/18/2022 7:28:51 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	25	D	mg/Kg	5	7/15/2022 2:59:37 AM
Surr: BFB	93.8	37.7-212	D	%Rec	5	7/15/2022 2:59:37 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.12	D	mg/Kg	5	7/15/2022 2:59:37 AM
Toluene	ND	0.25	D	mg/Kg	5	7/15/2022 2:59:37 AM
Ethylbenzene	ND	0.25	D	mg/Kg	5	7/15/2022 2:59:37 AM
Xylenes, Total	ND	0.50	D	mg/Kg	5	7/15/2022 2:59:37 AM
Surr: 4-Bromofluorobenzene	96.8	70-130	D	%Rec	5	7/15/2022 2:59:37 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	11000	600		mg/Kg	200	7/18/2022 10:25:01 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Project: Carlsbad
Lab ID: 2207413-013 **Matrix:** SOIL

Client Sample ID: BH-22-15 0-1'
Collection Date: 7/5/2022 2:15:00 PM
Received Date: 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	4600	150		mg/Kg	10	7/15/2022 2:08:46 AM
Motor Oil Range Organics (MRO)	1400	500		mg/Kg	10	7/15/2022 2:08:46 AM
Surr: DNOP	0	51.1-141	S	%Rec	10	7/15/2022 2:08:46 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	24	D	mg/Kg	5	7/15/2022 3:23:15 AM
Surr: BFB	94.7	37.7-212	D	%Rec	5	7/15/2022 3:23:15 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.12	D	mg/Kg	5	7/15/2022 3:23:15 AM
Toluene	ND	0.24	D	mg/Kg	5	7/15/2022 3:23:15 AM
Ethylbenzene	ND	0.24	D	mg/Kg	5	7/15/2022 3:23:15 AM
Xylenes, Total	ND	0.48	D	mg/Kg	5	7/15/2022 3:23:15 AM
Surr: 4-Bromofluorobenzene	97.3	70-130	D	%Rec	5	7/15/2022 3:23:15 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	20000	600		mg/Kg	200	7/18/2022 10:37:25 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Client Sample ID: BH-22-16 0-1'
Project: Carlsbad
Collection Date: 7/5/2022 2:15:00 PM
Lab ID: 2207413-014 **Matrix:** SOIL **Received Date:** 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	700	61		mg/Kg	20	7/15/2022 11:22:36 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Project: Carlsbad
Lab ID: 2207413-015 **Matrix:** SOIL

Client Sample ID: BH-22-17 0-1'
Collection Date: 7/5/2022 2:20:00 PM
Received Date: 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	150	15		mg/Kg	1	7/18/2022 7:14:13 PM
Motor Oil Range Organics (MRO)	120	50		mg/Kg	1	7/18/2022 7:14:13 PM
Surr: DNOP	84.6	51.1-141		%Rec	1	7/18/2022 7:14:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	25	D	mg/Kg	5	7/15/2022 3:46:51 AM
Surr: BFB	95.9	37.7-212	D	%Rec	5	7/15/2022 3:46:51 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.12	D	mg/Kg	5	7/15/2022 3:46:51 AM
Toluene	ND	0.25	D	mg/Kg	5	7/15/2022 3:46:51 AM
Ethylbenzene	ND	0.25	D	mg/Kg	5	7/15/2022 3:46:51 AM
Xylenes, Total	ND	0.49	D	mg/Kg	5	7/15/2022 3:46:51 AM
Surr: 4-Bromofluorobenzene	101	70-130	D	%Rec	5	7/15/2022 3:46:51 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	8900	300		mg/Kg	100	7/18/2022 10:49:49 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Project: Carlsbad
Lab ID: 2207413-016 **Matrix:** SOIL

Client Sample ID: BH-22-20 0-1'
Collection Date: 7/5/2022 2:25:00 PM
Received Date: 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	350	60		mg/Kg	20	7/16/2022 12:12:13 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Project: Carlsbad
Lab ID: 2207413-017 **Matrix:** SOIL

Client Sample ID: BH-22-21 0-1'
Collection Date: 7/5/2022 2:35:00 PM
Received Date: 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	1800	60		mg/Kg	20	7/16/2022 12:24:38 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2207413**
Date Reported: **7/25/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Oil Company
Project: Carlsbad
Lab ID: 2207413-018 **Matrix:** SOIL

Client Sample ID: BH-22-23 0-1'
Collection Date: 7/5/2022 2:40:00 PM
Received Date: 7/12/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	920	61		mg/Kg	20	7/16/2022 12:37:02 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2207413**

25-Jul-22

Client: Marathon Oil Company
Project: Carlsbad

Sample ID: **MB-68812**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **68812**	RunNo: **89568**
Prep Date: **7/15/2022**	Analysis Date: **7/15/2022**	SeqNo: **3188184** Units: **mg/Kg**

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

Sample ID: **LCS-68812**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **68812**	RunNo: **89568**
Prep Date: **7/15/2022**	Analysis Date: **7/15/2022**	SeqNo: **3188185** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.5	90	110			

Sample ID: **MB-68821**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **68821**	RunNo: **89568**
Prep Date: **7/15/2022**	Analysis Date: **7/15/2022**	SeqNo: **3188216** Units: **mg/Kg**

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

Sample ID: **LCS-68821**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **68821**	RunNo: **89568**
Prep Date: **7/15/2022**	Analysis Date: **7/15/2022**	SeqNo: **3188217** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.3	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2207413**

25-Jul-22

Client: Marathon Oil Company
Project: Carlsbad

Sample ID: **MB-68751**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **68751**	RunNo: **89486**
Prep Date: **7/13/2022**	Analysis Date: **7/14/2022**	SeqNo: **3186456** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.3		10.00		83.3	51.1	141			

Sample ID: **LCS-68751**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **68751**	RunNo: **89486**
Prep Date: **7/13/2022**	Analysis Date: **7/14/2022**	SeqNo: **3186457** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	15	50.00	0	81.7	64.4	127			
Surr: DNOP	3.8		5.000		76.0	51.1	141			

Sample ID: **MB-68848**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **68848**	RunNo: **89573**
Prep Date: **7/18/2022**	Analysis Date: **7/18/2022**	SeqNo: **3188497** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.3		10.00		73.1	51.1	141			

Sample ID: **LCS-68848**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **68848**	RunNo: **89573**
Prep Date: **7/18/2022**	Analysis Date: **7/18/2022**	SeqNo: **3188498** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.0		5.000		60.5	51.1	141			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2207413**

25-Jul-22

Client: Marathon Oil Company

Project: Carlsbad

Sample ID: **lcs-68726**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **68726**	RunNo: **89504**
Prep Date: **7/12/2022**	Analysis Date: **7/15/2022**	SeqNo: **3184981** 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	87.9	72.3	137			
Surr: BFB	1800		1000		180	37.7	212			

Sample ID: **mb-68726**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **68726**	RunNo: **89504**
Prep Date: **7/12/2022**	Analysis Date: **7/15/2022**	SeqNo: **3184982** 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	830		1000		83.2	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2207413**

25-Jul-22

Client: Marathon Oil Company

Project: Carlsbad

Sample ID: **lcs-68726**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **68726**	RunNo: **89504**
Prep Date: **7/12/2022**	Analysis Date: **7/15/2022**	SeqNo: **3185032** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.3	80	120			
Toluene	0.92	0.050	1.000	0	91.8	80	120			
Ethylbenzene	0.90	0.050	1.000	0	90.5	80	120			
Xylenes, Total	2.7	0.10	3.000	0	89.9	80	120			
Surr: 4-Bromofluorobenzene	0.83		1.000		83.2	70	130			

Sample ID: **mb-68726**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **68726**	RunNo: **89504**
Prep Date: **7/12/2022**	Analysis Date: **7/15/2022**	SeqNo: **3185033** 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	0.83		1.000		82.7	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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: **Andeavor** Work Order Number: **2207413** RcptNo: 1

Received By: **Cheyenne Cason** **7/12/2022 7:20:00 AM** Chel

Completed By: **Cheyenne Cason** **7/12/2022 8:22:02 AM** Chel

Reviewed By: JR 7/12/22

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: KPA 7.12.22

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.5	Good	Not Present			
2	0.6	Good	Not Present			
3	0.9	Good	Not Present			

Chain-of-Custody Record

Client: Marathon

Mailing Address: On File

Phone #: (575) 988-8753

email or Fax#: msanjari@marathonoil.com

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

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

Turn-Around Time: Direct Bill to Marathon
☑ Standard ☒ Rush_____

Project Name: Getty 35 State Com #001

Project #: CL.22.01693

Project Manager: Michael Moffitt

Sampler:

On Ice: ☑ Yes ☐ No

# of Coolers: 3

Cooler Temp(including CF): see Checklist (°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. 2207413	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)
7-5-22	1330	Soil	BH-22-01 0-1'	4 oz Glass Jar	ICE	001							X			
	1335		BH-22-02 0-1'			002	X	X					X			
	1345		BH-22-04 0-1'			003							X			
	1350		BH-22-05 0-1'			004							X			
	1350		BH-22-06 0-1'			005							X			
	1350		BH-22-07 0-1'			006	X	X					X			
	1355		BH-22-08 0-1'			007							X			
	1355		BH-22-09 0-1'			008							X			
	1400		BH-22-10 0-1'			009							X			
	1400		BH-22-11 0-1'			010							X			
	1405		BH-22-12 0-1'			011							X			
	1410		BH-22-14 0-1'			012	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
7/11/22	1130				7/11/22	1130
7/11/22	1700					

Remarks: * Direct Bill Marathon
CC All Reports to Michael Moffitt
All samples Based off COC

One Comm 7/12/22 0720

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.

PD 282

Chain-of-Custody Record

Client: Marathon

Mailing Address: On File

Phone #: (575) 988-8753

email or Fax#: msanjari@marathonoil.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: Direct Bill to Marathon
☑ Standard ☐ Rush

Project Name: Getty 35 State Com #001

Project #: CL.22.01693

Project Manager: Michael Moffitt

Sampler:
On Ice: ☒ Yes ☐ No
# of Coolers: 3 2.5-0=2.5
Cooler Temp(including CF): 0.6-0=0.6 (°C) 0.9-0=0.9

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. 2207413	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)
7-5-22	1415	Soil	BH-22-15 0-1'	4oz Glass Jar	ICE	013	X	X					X			
	1415		BH-22-16 0-1'			014							X			
	1420		BH-22-17 0-1'			015	X	X					X			
	1425		BH-22-20 0-1'			016							X			
	1435		BH-22-21 0-1'			017							X			
	1440		BH-22-23 0-1'			018							X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
7/11/22	1130				7/11/22	1130
7/11/22	1900				7/12/22	0720

Remarks: CC All Report to Michael Moffitt

All samples based off COC

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

August 26, 2022

Michael Moffitt

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

RE: Getty 35 State 001 OrderNo.: 2208A92

Dear Michael Moffitt:

Hall Environmental Analysis Laboratory received 9 sample(s) on 8/18/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2208A92**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-24. 0-1
Project: Getty 35 State 001
Collection Date: 8/11/2022 8:55:00 AM
Lab ID: 2208A92-001 **Matrix:** SOIL
Received Date: 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	2900	150		mg/Kg	10	8/22/2022 3:03:33 PM
Motor Oil Range Organics (MRO)	1900	490		mg/Kg	10	8/22/2022 3:03:33 PM
Surr: DNOP	0	21-129	S	%Rec	10	8/22/2022 3:03:33 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/19/2022 10:03:31 PM
Surr: BFB	100	37.7-212		%Rec	1	8/19/2022 10:03:31 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	8/19/2022 10:03:31 PM
Toluene	ND	0.050		mg/Kg	1	8/19/2022 10:03:31 PM
Ethylbenzene	ND	0.050		mg/Kg	1	8/19/2022 10:03:31 PM
Xylenes, Total	ND	0.10		mg/Kg	1	8/19/2022 10:03:31 PM
Surr: 4-Bromofluorobenzene	93.7	70-130		%Rec	1	8/19/2022 10:03:31 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	17000	1500		mg/Kg	500	8/24/2022 11:02:38 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	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 range due to dilution or matrix interference

Analytical Report
Lab Order **2208A92**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-24. 4'
Project: Getty 35 State 001
Collection Date: 8/11/2022 1:30:00 PM
Lab ID: 2208A92-002 **Matrix:** SOIL
Received Date: 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/22/2022 6:19:29 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/22/2022 6:19:29 PM
Surr: DNOP	93.4	21-129		%Rec	1	8/22/2022 6:19:29 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/19/2022 10:50:35 PM
Surr: BFB	106	37.7-212		%Rec	1	8/19/2022 10:50:35 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	8/19/2022 10:50:35 PM
Toluene	ND	0.049		mg/Kg	1	8/19/2022 10:50:35 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/19/2022 10:50:35 PM
Xylenes, Total	ND	0.098		mg/Kg	1	8/19/2022 10:50:35 PM
Surr: 4-Bromofluorobenzene	96.5	70-130		%Rec	1	8/19/2022 10:50:35 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	7000	300		mg/Kg	100	8/24/2022 11:14:58 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2208A92**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-24 6'
Project: Getty 35 State 001
Collection Date: 8/11/2022 1:30:00 PM
Lab ID: 2208A92-003 **Matrix:** SOIL **Received Date:** 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	6400	300		mg/Kg	100	8/24/2022 11:27:19 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2208A92**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-24 10'
Project: Getty 35 State 001
Collection Date: 8/11/2022 1:45:00 PM
Lab ID: 2208A92-004 **Matrix:** SOIL **Received Date:** 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	6200	300		mg/Kg	100	8/25/2022 10:32:41 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2208A92**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-24 20'
Project: Getty 35 State 001
Collection Date: 8/11/2022 2:00:00 PM
Lab ID: 2208A92-005 **Matrix:** SOIL **Received Date:** 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	2500	150		mg/Kg	50	8/25/2022 10:45:06 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2208A92**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-24 30'
Project: Getty 35 State 001
Collection Date: 8/11/2022 2:10:00 PM
Lab ID: 2208A92-006 **Matrix:** SOIL **Received Date:** 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	2900	150		mg/Kg	50	8/25/2022 10:57:30 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2208A92**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-24 40'
Project: Getty 35 State 001
Collection Date: 8/11/2022 2:20:00 PM
Lab ID: 2208A92-007 **Matrix:** SOIL **Received Date:** 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	990	60		mg/Kg	20	8/24/2022 2:41:17 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2208A92**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-24 50'
Project: Getty 35 State 001
Collection Date: 8/11/2022 2:40:00 PM
Lab ID: 2208A92-008 **Matrix:** SOIL
Received Date: 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	8/22/2022 6:35:21 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/22/2022 6:35:21 PM
Surr: DNOP	93.3	21-129		%Rec	1	8/22/2022 6:35:21 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/19/2022 11:14:07 PM
Surr: BFB	103	37.7-212		%Rec	1	8/19/2022 11:14:07 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	8/19/2022 11:14:07 PM
Toluene	ND	0.047		mg/Kg	1	8/19/2022 11:14:07 PM
Ethylbenzene	ND	0.047		mg/Kg	1	8/19/2022 11:14:07 PM
Xylenes, Total	ND	0.095		mg/Kg	1	8/19/2022 11:14:07 PM
Surr: 4-Bromofluorobenzene	96.5	70-130		%Rec	1	8/19/2022 11:14:07 PM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	83	60		mg/Kg	20	8/24/2022 2:53:38 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	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 range due to dilution or matrix interference

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2208A92**

26-Aug-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **MB-69705**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **69705**	RunNo: **90492**
Prep Date: **8/23/2022**	Analysis Date: **8/24/2022**	SeqNo: **3232612** Units: **mg/Kg**

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

Sample ID: **LCS-69705**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **69705**	RunNo: **90492**
Prep Date: **8/23/2022**	Analysis Date: **8/24/2022**	SeqNo: **3232613** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.1	90	110			

Sample ID: **MB-69724**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **69724**	RunNo: **90534**
Prep Date: **8/24/2022**	Analysis Date: **8/24/2022**	SeqNo: **3234917** Units: **mg/Kg**

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

Sample ID: **LCS-69724**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **69724**	RunNo: **90534**
Prep Date: **8/24/2022**	Analysis Date: **8/24/2022**	SeqNo: **3234918** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.7	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2208A92**

26-Aug-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **MB-69630**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **69630**	RunNo: **90468**
Prep Date: **8/19/2022**	Analysis Date: **8/22/2022**	SeqNo: **3231105** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.8		10.00		77.8	21	129			

Sample ID: **LCS-69630**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **69630**	RunNo: **90468**
Prep Date: **8/19/2022**	Analysis Date: **8/22/2022**	SeqNo: **3231106** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	15	50.00	0	96.2	64.4	127			
Surr: DNOP	4.1		5.000		81.2	21	129			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2208A92**

26-Aug-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **mb-69611**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **69611**	RunNo: **90417**
Prep Date: **8/18/2022**	Analysis Date: **8/19/2022**	SeqNo: **3227682** 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			

Sample ID: **lcs-69611**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **69611**	RunNo: **90417**
Prep Date: **8/18/2022**	Analysis Date: **8/19/2022**	SeqNo: **3227683** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	72.3	137			
Surr: BFB	2100		1000		209	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2208A92**

26-Aug-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **mb-69611**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **69611**	RunNo: **90417**
Prep Date: **8/18/2022**	Analysis Date: **8/19/2022**	SeqNo: **3227728** 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	0.95		1.000		95.5	70	130			

Sample ID: **LCS-69611**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **69611**	RunNo: **90417**
Prep Date: **8/18/2022**	Analysis Date: **8/19/2022**	SeqNo: **3227729** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	95.5	80	120			
Toluene	0.99	0.050	1.000	0	99.2	80	120			
Ethylbenzene	0.99	0.050	1.000	0	99.2	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.2	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 range due to dilution or matrix interference		

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: 2208A92

RcptNo: 1

Received By: Tracy Casarrubias 8/18/2022 7:15:00 AM

Completed By: Tracy Casarrubias 8/18/2022 8:41:07 AM

Reviewed By: JM 8/18/22

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 8-18-22

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.2	Good	Yes			

Chain-of-Custody Record

Client: Vertex

Mailing Address: (Marathon) 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 5 DAY

Project Name: Getty 35 State #001

Project #: 22E-01931

Project Manager: Michael Moffitt

Sampler: LaKin Pullman

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 5.3 -0.1 = 5.2 (°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. 2208A92	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)
8-11-22	0855	Soil	BH22-24-0-1	8 oz Glass Jar	ICE	001	X	X					X			
	1330		BH22-24-4'			002	X	X					X			
	1330		BH22-24 6'			003							X			
	1345		BH22-24 10'			004							X			
	1400		BH22-24 20'			005							X			
	1410		BH22-24 30'			006							X			
	1420		BH22-24 40'			007							X			
	1440		BH22-24 50'			008	X	X				X	X			
	1500		BH22-24 55'			HOLD!	X	X				X	X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8-17-22	1150				8/17/22	1150
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8/17/22	1900				8/18/22	7:15

Remarks:
Direct Bill to Marathon cost center
Final Report
CC Michael Moffitt & Melodie Sanjari

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

August 26, 2022

Michael Moffitt

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

RE: Getty 35 State 001 OrderNo.: 2208A94

Dear Michael Moffitt:

Hall Environmental Analysis Laboratory received 10 sample(s) on 8/18/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2208A94**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-15 2'
Project: Getty 35 State 001
Collection Date: 8/11/2022 9:45:00 AM
Lab ID: 2208A94-001 **Matrix:** SOIL
Received Date: 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	3400	140		mg/Kg	10	8/22/2022 3:27:28 PM
Motor Oil Range Organics (MRO)	1400	470		mg/Kg	10	8/22/2022 3:27:28 PM
Surr: DNOP	0	21-129	S	%Rec	10	8/22/2022 3:27:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/20/2022 12:01:21 AM
Surr: BFB	99.2	37.7-212		%Rec	1	8/20/2022 12:01:21 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	8/20/2022 12:01:21 AM
Toluene	ND	0.046		mg/Kg	1	8/20/2022 12:01:21 AM
Ethylbenzene	ND	0.046		mg/Kg	1	8/20/2022 12:01:21 AM
Xylenes, Total	ND	0.092		mg/Kg	1	8/20/2022 12:01:21 AM
Surr: 4-Bromofluorobenzene	95.1	70-130		%Rec	1	8/20/2022 12:01:21 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	5900	300		mg/Kg	100	8/25/2022 11:09:54 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2208A94**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-15 4'
Project: Getty 35 State 001
Collection Date: 8/11/2022 9:45:00 AM
Lab ID: 2208A94-002 **Matrix:** SOIL
Received Date: 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	200	15		mg/Kg	1	8/22/2022 6:50:36 PM
Motor Oil Range Organics (MRO)	110	49		mg/Kg	1	8/22/2022 6:50:36 PM
Surr: DNOP	91.0	21-129		%Rec	1	8/22/2022 6:50:36 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/20/2022 1:35:49 AM
Surr: BFB	99.5	37.7-212		%Rec	1	8/20/2022 1:35:49 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	8/20/2022 1:35:49 AM
Toluene	ND	0.047		mg/Kg	1	8/20/2022 1:35:49 AM
Ethylbenzene	ND	0.047		mg/Kg	1	8/20/2022 1:35:49 AM
Xylenes, Total	ND	0.094		mg/Kg	1	8/20/2022 1:35:49 AM
Surr: 4-Bromofluorobenzene	88.6	70-130		%Rec	1	8/20/2022 1:35:49 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	12000	600		mg/Kg	200	8/25/2022 11:22:18 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2208A94**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-15 6'
Project: Getty 35 State 001
Collection Date: 8/11/2022 9:55:00 AM
Lab ID: 2208A94-003 **Matrix:** SOIL **Received Date:** 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	11000	600		mg/Kg	200	8/25/2022 11:34:42 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2208A94**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-15 8'
Project: Getty 35 State 001
Collection Date: 8/11/2022 9:55:00 AM
Lab ID: 2208A94-004 **Matrix:** SOIL
Received Date: 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	9700	600		mg/Kg	200	8/25/2022 11:47:07 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2208A94**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-15 10'
Project: Getty 35 State 001
Collection Date: 8/11/2022 10:30:00 AM
Lab ID: 2208A94-005 **Matrix:** SOIL **Received Date:** 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	8900	600		mg/Kg	200	8/25/2022 11:59:32 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2208A94**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-15 20'
Project: Getty 35 State 001
Collection Date: 8/11/2022 10:45:00 AM
Lab ID: 2208A94-006 **Matrix:** SOIL **Received Date:** 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	2300	150		mg/Kg	50	8/25/2022 12:11:56 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2208A94**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-15 30'
Project: Getty 35 State 001
Collection Date: 8/11/2022 11:10:00 AM
Lab ID: 2208A94-007 **Matrix:** SOIL **Received Date:** 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	1800	59		mg/Kg	20	8/24/2022 4:44:44 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2208A94**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-15 40'
Project: Getty 35 State 001
Collection Date: 8/11/2022 11:40:00 AM
Lab ID: 2208A94-008 **Matrix:** SOIL **Received Date:** 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	1200	60		mg/Kg	20	8/24/2022 4:57:05 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2208A94**
Date Reported: **8/26/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-15 50'
Project: Getty 35 State 001
Collection Date: 8/11/2022 12:00:00 PM
Lab ID: 2208A94-009 **Matrix:** SOIL
Received Date: 8/18/2022 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	8/22/2022 7:05:52 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/22/2022 7:05:52 PM
Surr: DNOP	89.8	21-129		%Rec	1	8/22/2022 7:05:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/20/2022 1:59:29 AM
Surr: BFB	103	37.7-212		%Rec	1	8/20/2022 1:59:29 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	8/20/2022 1:59:29 AM
Toluene	ND	0.048		mg/Kg	1	8/20/2022 1:59:29 AM
Ethylbenzene	ND	0.048		mg/Kg	1	8/20/2022 1:59:29 AM
Xylenes, Total	ND	0.096		mg/Kg	1	8/20/2022 1:59:29 AM
Surr: 4-Bromofluorobenzene	94.9	70-130		%Rec	1	8/20/2022 1:59:29 AM
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	200	60		mg/Kg	20	8/24/2022 5:09:26 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	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 range due to dilution or matrix interference

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2208A94**

26-Aug-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **MB-69724**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **69724**	RunNo: **90534**							
Prep Date: **8/24/2022**	Analysis Date: **8/24/2022**	SeqNo: **3234917**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-69724**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **69724**	RunNo: **90534**							
Prep Date: **8/24/2022**	Analysis Date: **8/24/2022**	SeqNo: **3234918**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.7	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2208A94**

26-Aug-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **MB-69630**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **69630**	RunNo: **90468**
Prep Date: **8/19/2022**	Analysis Date: **8/22/2022**	SeqNo: **3231105** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.8		10.00		77.8	21	129			

Sample ID: **LCS-69630**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **69630**	RunNo: **90468**
Prep Date: **8/19/2022**	Analysis Date: **8/22/2022**	SeqNo: **3231106** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	15	50.00	0	96.2	64.4	127			
Surr: DNOP	4.1		5.000		81.2	21	129			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2208A94**

26-Aug-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **mb-69611**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **69611**	RunNo: **90417**
Prep Date: **8/18/2022**	Analysis Date: **8/19/2022**	SeqNo: **3227682** 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			

Sample ID: **lcs-69611**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **69611**	RunNo: **90417**
Prep Date: **8/18/2022**	Analysis Date: **8/19/2022**	SeqNo: **3227683** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	72.3	137			
Surr: BFB	2100		1000		209	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2208A94**

26-Aug-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **mb-69611**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **69611**	RunNo: **90417**
Prep Date: **8/18/2022**	Analysis Date: **8/19/2022**	SeqNo: **3227728** 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	0.95		1.000		95.5	70	130			

Sample ID: **LCS-69611**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **69611**	RunNo: **90417**
Prep Date: **8/18/2022**	Analysis Date: **8/19/2022**	SeqNo: **3227729** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	95.5	80	120			
Toluene	0.99	0.050	1.000	0	99.2	80	120			
Ethylbenzene	0.99	0.050	1.000	0	99.2	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.2	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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: 2208A94

RcptNo: 1

Received By: Tracy Casarrubias 8/18/2022 7:15:00 AM

Completed By: Tracy Casarrubias 8/18/2022 8:54:08 AM

Reviewed By: JM 8/18/22

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: KPL 8.18.22

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.2	Good	Yes			

Chain-of-Custody Record

Client: Vertex

Mailing Address: (Marathon) 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 3 Day

Project Name: 35 State Getty ~~State~~ #001

Project #: 22E-01931

Project Manager: Michael Moffitt

Sampler: LaKin Pullman

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 5.3 - 0.1 = 5.2 (°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. 2208A94	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	Ⓒ F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
8-11-22	0945	Soil	BH22-15 2'	8 oz Glass Jar	ICE	001	X	X					X			
8-11-22	0945		BH22-15 4'			002	X	X					X			
8-11-22	0955		BH22-15 6'			003							X			
8-11-22	0955		BH22-15 8'			004							X			
8-11-22	1030		BH22-15 10'			005							X			
8-11-22	1045		BH22-15 20'			006							X			
8-11-22	1110		BH22-15 30'			007							X			
8-11-22	1140		BH22-15 40'			008							X			
8-11-22	1200		BH22-15 50'			009	X	X					X			
8-11-22	1225		Hold BH-22-15 55'			Hold! 010	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8-17-22	1150				8/17/22	1150
8/17/22	1900				8/18/22	7:5

Remarks:
Direct Bill to Marathon cost center

cc Michael Moffitt & Melodie Sanjari 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.

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

September 22, 2022

Michael Moffitt

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

RE: Getty 35 State 001 OrderNo.: 2209424

Dear Michael Moffitt:

Hall Environmental Analysis Laboratory received 16 sample(s) on 9/9/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2209424**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-27 0'
Project: Getty 35 State 001
Collection Date: 9/7/2022 8:15:00 AM
Lab ID: 2209424-001 **Matrix:** SOIL **Received Date:** 9/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	9/14/2022 2:05:10 AM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	9/14/2022 2:05:10 AM
Surr: DNOP	99.8	21-129		%Rec	1	9/14/2022 2:05:10 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/13/2022 4:46:35 AM
Surr: BFB	95.6	37.7-212		%Rec	1	9/13/2022 4:46:35 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	9/13/2022 4:46:35 AM
Toluene	ND	0.050		mg/Kg	1	9/13/2022 4:46:35 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/13/2022 4:46:35 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/13/2022 4:46:35 AM
Surr: 4-Bromofluorobenzene	89.9	70-130		%Rec	1	9/13/2022 4:46:35 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	790	60		mg/Kg	20	9/15/2022 4:15:13 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	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 range due to dilution or matrix interference

Analytical Report
Lab Order **2209424**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-27 1.5'
Project: Getty 35 State 001
Collection Date: 9/7/2022 8:45:00 AM
Lab ID: 2209424-002 **Matrix:** SOIL **Received Date:** 9/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/14/2022 2:16:00 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/14/2022 2:16:00 AM
Surr: DNOP	108	21-129		%Rec	1	9/14/2022 2:16:00 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/13/2022 1:34:16 PM
Surr: BFB	96.5	37.7-212		%Rec	1	9/13/2022 1:34:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	9/13/2022 1:34:16 PM
Toluene	ND	0.048		mg/Kg	1	9/13/2022 1:34:16 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/13/2022 1:34:16 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/13/2022 1:34:16 PM
Surr: 4-Bromofluorobenzene	89.6	70-130		%Rec	1	9/13/2022 1:34:16 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	1200	60		mg/Kg	20	9/15/2022 5:17:14 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2209424**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH22-28 0'
Project: Getty 35 State 001 **Collection Date:** 9/7/2022 9:15:00 AM
Lab ID: 2209424-003 **Matrix:** SOIL **Received Date:** 9/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	9/14/2022 2:26:47 AM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	9/14/2022 2:26:47 AM
Surr: DNOP	98.4	21-129		%Rec	1	9/14/2022 2:26:47 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/13/2022 1:57:52 PM
Surr: BFB	101	37.7-212		%Rec	1	9/13/2022 1:57:52 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	9/13/2022 1:57:52 PM
Toluene	ND	0.047		mg/Kg	1	9/13/2022 1:57:52 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/13/2022 1:57:52 PM
Xylenes, Total	ND	0.094		mg/Kg	1	9/13/2022 1:57:52 PM
Surr: 4-Bromofluorobenzene	92.2	70-130		%Rec	1	9/13/2022 1:57:52 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	59		mg/Kg	20	9/15/2022 11:41:07 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2209424**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-28 1.5'
Project: Getty 35 State 001
Collection Date: 9/7/2022 9:30:00 AM
Lab ID: 2209424-004 **Matrix:** SOIL **Received Date:** 9/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	9/14/2022 2:48:19 AM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	9/14/2022 2:48:19 AM
Surr: DNOP	103	21-129		%Rec	1	9/14/2022 2:48:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/13/2022 3:08:45 PM
Surr: BFB	96.2	37.7-212		%Rec	1	9/13/2022 3:08:45 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	9/13/2022 3:08:45 PM
Toluene	ND	0.047		mg/Kg	1	9/13/2022 3:08:45 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/13/2022 3:08:45 PM
Xylenes, Total	ND	0.094		mg/Kg	1	9/13/2022 3:08:45 PM
Surr: 4-Bromofluorobenzene	88.7	70-130		%Rec	1	9/13/2022 3:08:45 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	290	60		mg/Kg	20	9/15/2022 12:43:12 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2209424**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH22-29 0'
Project: Getty 35 State 001 **Collection Date:** 9/7/2022 10:45:00 AM
Lab ID: 2209424-005 **Matrix:** SOIL **Received Date:** 9/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	190	14		mg/Kg	1	9/15/2022 5:03:20 PM
Motor Oil Range Organics (MRO)	470	48		mg/Kg	1	9/15/2022 5:03:20 PM
Surr: DNOP	102	21-129		%Rec	1	9/15/2022 5:03:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/13/2022 3:32:21 PM
Surr: BFB	95.1	37.7-212		%Rec	1	9/13/2022 3:32:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	9/13/2022 3:32:21 PM
Toluene	ND	0.049		mg/Kg	1	9/13/2022 3:32:21 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/13/2022 3:32:21 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/13/2022 3:32:21 PM
Surr: 4-Bromofluorobenzene	88.2	70-130		%Rec	1	9/13/2022 3:32:21 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	200	60		mg/Kg	20	9/15/2022 12:55:37 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	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 range due to dilution or matrix interference

Analytical Report
Lab Order **2209424**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-29 1.5'
Project: Getty 35 State 001
Collection Date: 9/7/2022 11:05:00 AM
Lab ID: 2209424-006 **Matrix:** SOIL **Received Date:** 9/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	270		mg/Kg	20	9/14/2022 3:31:13 AM
Motor Oil Range Organics (MRO)	910	900		mg/Kg	20	9/14/2022 3:31:13 AM
Surr: DNOP	0	21-129	S	%Rec	20	9/14/2022 3:31:13 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/13/2022 3:55:56 PM
Surr: BFB	93.9	37.7-212		%Rec	1	9/13/2022 3:55:56 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	9/13/2022 3:55:56 PM
Toluene	ND	0.048		mg/Kg	1	9/13/2022 3:55:56 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/13/2022 3:55:56 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/13/2022 3:55:56 PM
Surr: 4-Bromofluorobenzene	85.9	70-130		%Rec	1	9/13/2022 3:55:56 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	430	60		mg/Kg	20	9/15/2022 1:32:51 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2209424**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-30 0'
Project: Getty 35 State 001
Collection Date: 9/7/2022 11:45:00 AM
Lab ID: 2209424-007 **Matrix:** SOIL **Received Date:** 9/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	200	13		mg/Kg	1	9/15/2022 5:35:01 PM
Motor Oil Range Organics (MRO)	550	44		mg/Kg	1	9/15/2022 5:35:01 PM
Surr: DNOP	94.5	21-129		%Rec	1	9/15/2022 5:35:01 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/13/2022 4:19:40 PM
Surr: BFB	94.3	37.7-212		%Rec	1	9/13/2022 4:19:40 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	9/13/2022 4:19:40 PM
Toluene	ND	0.050		mg/Kg	1	9/13/2022 4:19:40 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/13/2022 4:19:40 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/13/2022 4:19:40 PM
Surr: 4-Bromofluorobenzene	87.5	70-130		%Rec	1	9/13/2022 4:19:40 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	330	60		mg/Kg	20	9/15/2022 1:45:15 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	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 range due to dilution or matrix interference

Analytical Report
Lab Order **2209424**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH22-30 1.5'
Project: Getty 35 State 001 **Collection Date:** 9/7/2022 12:00:00 PM
Lab ID: 2209424-008 **Matrix:** SOIL **Received Date:** 9/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	210	14		mg/Kg	1	9/16/2022 1:38:50 PM
Motor Oil Range Organics (MRO)	420	47		mg/Kg	1	9/16/2022 1:38:50 PM
Surr: DNOP	74.6	21-129		%Rec	1	9/16/2022 1:38:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/13/2022 4:43:16 PM
Surr: BFB	92.6	37.7-212		%Rec	1	9/13/2022 4:43:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	9/13/2022 4:43:16 PM
Toluene	ND	0.048		mg/Kg	1	9/13/2022 4:43:16 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/13/2022 4:43:16 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/13/2022 4:43:16 PM
Surr: 4-Bromofluorobenzene	85.0	70-130		%Rec	1	9/13/2022 4:43:16 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	550	60		mg/Kg	20	9/15/2022 1:57:40 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2209424**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-31 0'
Project: Getty 35 State 001
Collection Date: 9/7/2022 12:30:00 PM
Lab ID: 2209424-009 **Matrix:** SOIL **Received Date:** 9/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/16/2022 1:06:55 PM
Motor Oil Range Organics (MRO)	78	50		mg/Kg	1	9/16/2022 1:06:55 PM
Surr: DNOP	84.7	21-129		%Rec	1	9/16/2022 1:06:55 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/13/2022 5:06:49 PM
Surr: BFB	95.7	37.7-212		%Rec	1	9/13/2022 5:06:49 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	9/13/2022 5:06:49 PM
Toluene	ND	0.050		mg/Kg	1	9/13/2022 5:06:49 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/13/2022 5:06:49 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/13/2022 5:06:49 PM
Surr: 4-Bromofluorobenzene	88.1	70-130		%Rec	1	9/13/2022 5:06:49 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	170	60		mg/Kg	20	9/15/2022 2:10:05 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2209424**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-31 1'
Project: Getty 35 State 001
Collection Date: 9/7/2022 12:40:00 PM
Lab ID: 2209424-010 **Matrix:** SOIL **Received Date:** 9/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/14/2022 5:28:27 AM
Motor Oil Range Organics (MRO)	55	45		mg/Kg	1	9/14/2022 5:28:27 AM
Surr: DNOP	104	21-129		%Rec	1	9/14/2022 5:28:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/13/2022 5:30:25 PM
Surr: BFB	95.4	37.7-212		%Rec	1	9/13/2022 5:30:25 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	9/13/2022 5:30:25 PM
Toluene	ND	0.049		mg/Kg	1	9/13/2022 5:30:25 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/13/2022 5:30:25 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/13/2022 5:30:25 PM
Surr: 4-Bromofluorobenzene	87.9	70-130		%Rec	1	9/13/2022 5:30:25 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	240	60		mg/Kg	20	9/15/2022 2:47:20 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2209424**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-32 0'
Project: Getty 35 State 001
Collection Date: 9/7/2022 2:15:00 PM
Lab ID: 2209424-011 **Matrix:** SOIL **Received Date:** 9/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/14/2022 6:00:11 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/14/2022 6:00:11 AM
Surr: DNOP	93.3	21-129		%Rec	1	9/14/2022 6:00:11 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/13/2022 5:53:59 PM
Surr: BFB	96.3	37.7-212		%Rec	1	9/13/2022 5:53:59 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	9/13/2022 5:53:59 PM
Toluene	ND	0.050		mg/Kg	1	9/13/2022 5:53:59 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/13/2022 5:53:59 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/13/2022 5:53:59 PM
Surr: 4-Bromofluorobenzene	90.1	70-130		%Rec	1	9/13/2022 5:53:59 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	9/15/2022 2:59:44 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2209424**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-32 1'
Project: Getty 35 State 001
Collection Date: 9/7/2022 2:30:00 PM
Lab ID: 2209424-012 **Matrix:** SOIL **Received Date:** 9/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/14/2022 6:10:48 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/14/2022 6:10:48 AM
Surr: DNOP	92.2	21-129		%Rec	1	9/14/2022 6:10:48 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/13/2022 6:17:33 PM
Surr: BFB	95.4	37.7-212		%Rec	1	9/13/2022 6:17:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	9/13/2022 6:17:33 PM
Toluene	ND	0.047		mg/Kg	1	9/13/2022 6:17:33 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/13/2022 6:17:33 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/13/2022 6:17:33 PM
Surr: 4-Bromofluorobenzene	88.7	70-130		%Rec	1	9/13/2022 6:17:33 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	320	60		mg/Kg	20	9/15/2022 3:12:08 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2209424**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH22-33 0'
Project: Getty 35 State 001 **Collection Date:** 9/7/2022 3:40:00 PM
Lab ID: 2209424-013 **Matrix:** SOIL **Received Date:** 9/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/14/2022 7:31:57 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/14/2022 7:31:57 AM
Surr: DNOP	91.5	21-129		%Rec	1	9/14/2022 7:31:57 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/13/2022 6:41:04 PM
Surr: BFB	96.1	37.7-212		%Rec	1	9/13/2022 6:41:04 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	9/13/2022 6:41:04 PM
Toluene	ND	0.050		mg/Kg	1	9/13/2022 6:41:04 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/13/2022 6:41:04 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/13/2022 6:41:04 PM
Surr: 4-Bromofluorobenzene	89.5	70-130		%Rec	1	9/13/2022 6:41:04 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	260	60		mg/Kg	20	9/15/2022 3:24:33 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2209424**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH22-33 1'
Project: Getty 35 State 001 **Collection Date:** 9/7/2022 3:55:00 PM
Lab ID: 2209424-014 **Matrix:** SOIL **Received Date:** 9/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/14/2022 7:42:32 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/14/2022 7:42:32 AM
Surr: DNOP	98.6	21-129		%Rec	1	9/14/2022 7:42:32 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/13/2022 7:51:28 PM
Surr: BFB	95.0	37.7-212		%Rec	1	9/13/2022 7:51:28 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	9/13/2022 7:51:28 PM
Toluene	ND	0.048		mg/Kg	1	9/13/2022 7:51:28 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/13/2022 7:51:28 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/13/2022 7:51:28 PM
Surr: 4-Bromofluorobenzene	89.0	70-130		%Rec	1	9/13/2022 7:51:28 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	910	60		mg/Kg	20	9/15/2022 3:36:58 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2209424**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-34 0'
Project: Getty 35 State 001
Collection Date: 9/7/2022 4:15:00 PM
Lab ID: 2209424-015 **Matrix:** SOIL **Received Date:** 9/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	9/14/2022 7:53:08 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	9/14/2022 7:53:08 AM
Surr: DNOP	91.8	21-129		%Rec	1	9/14/2022 7:53:08 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/13/2022 8:14:59 PM
Surr: BFB	94.5	37.7-212		%Rec	1	9/13/2022 8:14:59 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	9/13/2022 8:14:59 PM
Toluene	ND	0.048		mg/Kg	1	9/13/2022 8:14:59 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/13/2022 8:14:59 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/13/2022 8:14:59 PM
Surr: 4-Bromofluorobenzene	88.6	70-130		%Rec	1	9/13/2022 8:14:59 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	59		mg/Kg	20	9/15/2022 3:49:22 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2209424**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-34 1'
Project: Getty 35 State 001
Collection Date: 9/7/2022 4:35:00 PM
Lab ID: 2209424-016 **Matrix:** SOIL **Received Date:** 9/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	9/14/2022 8:03:42 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	9/14/2022 8:03:42 AM
Surr: DNOP	102	21-129		%Rec	1	9/14/2022 8:03:42 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	480	60		mg/Kg	20	9/15/2022 4:01:46 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	9/11/2022 6:27:04 PM
Toluene	ND	0.050		mg/Kg	1	9/11/2022 6:27:04 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/11/2022 6:27:04 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/11/2022 6:27:04 PM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	9/11/2022 6:27:04 PM
Surr: 4-Bromofluorobenzene	98.8	70-130		%Rec	1	9/11/2022 6:27:04 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	9/11/2022 6:27:04 PM
Surr: Toluene-d8	108	70-130		%Rec	1	9/11/2022 6:27:04 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/11/2022 6:27:04 PM
Surr: BFB	101	70-130		%Rec	1	9/11/2022 6:27:04 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2209424**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID:	**MB-70185**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**70185**	RunNo:	**91050**					
Prep Date:	**9/14/2022**	Analysis Date:	**9/14/2022**	SeqNo:	**3256602**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID:	**LCS-70185**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**70185**	RunNo:	**91050**					
Prep Date:	**9/14/2022**	Analysis Date:	**9/14/2022**	SeqNo:	**3256603**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.0	90	110			

Sample ID:	**MB-70196**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**70196**	RunNo:	**91056**					
Prep Date:	**9/15/2022**	Analysis Date:	**9/15/2022**	SeqNo:	**3258074**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID:	**LCS-70196**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**70196**	RunNo:	**91056**					
Prep Date:	**9/15/2022**	Analysis Date:	**9/15/2022**	SeqNo:	**3258075**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.3	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 range due to dilution or matrix interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209424**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **LCS-70098**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **70098**	RunNo: **91025**
Prep Date: **9/12/2022**	Analysis Date: **9/14/2022**	SeqNo: **3255462** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	37	15	50.00	0	73.3	64.4	127			
Surr: DNOP	3.7		5.000		73.2	21	129			

Sample ID: **MB-70098**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **70098**	RunNo: **91025**
Prep Date: **9/12/2022**	Analysis Date: **9/14/2022**	SeqNo: **3255464** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.0		10.00		90.3	21	129			

Sample ID: **LCS-70218**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **70218**	RunNo: **91092**
Prep Date: **9/16/2022**	Analysis Date: **9/16/2022**	SeqNo: **3258486** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	37	15	50.00	0	74.2	64.4	127			
Surr: DNOP	3.7		5.000		74.9	21	129			

Sample ID: **MB-70218**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **70218**	RunNo: **91092**
Prep Date: **9/16/2022**	Analysis Date: **9/16/2022**	SeqNo: **3258487** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.2		10.00		82.0	21	129			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2209424**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **mb-70080**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **70080**	RunNo: **90963**
Prep Date: **9/9/2022**	Analysis Date: **9/13/2022**	SeqNo: **3252961** 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	980		1000		98.3	37.7	212			

Sample ID: **lcs-70080**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **70080**	RunNo: **90963**
Prep Date: **9/9/2022**	Analysis Date: **9/12/2022**	SeqNo: **3252962** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.8	72.3	137			
Surr: BFB	1900		1000		186	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2209424**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **mb-70080**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **70080**	RunNo: **90963**
Prep Date: **9/9/2022**	Analysis Date: **9/13/2022**	SeqNo: **3253008** 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		93.0	70	130			

Sample ID: **LCS-70080**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **70080**	RunNo: **90963**
Prep Date: **9/9/2022**	Analysis Date: **9/13/2022**	SeqNo: **3253009** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.025	1.000	0	85.9	80	120			
Toluene	0.89	0.050	1.000	0	88.8	80	120			
Ethylbenzene	0.89	0.050	1.000	0	88.8	80	120			
Xylenes, Total	2.6	0.10	3.000	0	88.2	80	120			
Surr: 4-Bromofluorobenzene	0.89		1.000		89.4	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2209424**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **lcs-70069**	SampType: **LCS4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **70069**	RunNo: **90941**
Prep Date: **9/9/2022**	Analysis Date: **9/11/2022**	SeqNo: **3251606** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	96.0	80	120			
Toluene	1.0	0.050	1.000	0	104	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.2	0.10	3.000	0	107	80	120			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		95.5	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.2	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		101	70	130			
Surr: Toluene-d8	0.52		0.5000		104	70	130			

Sample ID: **mb-70069**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **70069**	RunNo: **90941**
Prep Date: **9/9/2022**	Analysis Date: **9/11/2022**	SeqNo: **3251607** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		99.8	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.8	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.55		0.5000		110	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2209424**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **lcs-70069**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **70069**	RunNo: **90941**
Prep Date: **9/9/2022**	Analysis Date: **9/11/2022**	SeqNo: **3251586** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	109	70	130			
Surr: BFB	520		500.0		103	70	130			

Sample ID: **mb-70069**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **70069**	RunNo: **90941**
Prep Date: **9/9/2022**	Analysis Date: **9/11/2022**	SeqNo: **3251587** 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	500		500.0		99.0	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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: 2209424

RcptNo: 1

Received By: **Sean Livingston** 9/9/2022 7:35:00 AM Sean Livingston

Completed By: **Sean Livingston** 9/9/2022 8:10:06 AM Sean Livingston

Reviewed By: KH 9.09.22

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: JM 9/9/22

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good				

Chain-of-Custody Record

Client: **Vertex**

(Direct bill to Marathon)

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** 5 Day

Project Name:

Getty 35 State #001

Project #:

22E-01931

Project Manager:

Michael Moffitt

Sampler: Lakin Pullman

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2209424	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)
09/07	8:15	Soil	BH22-27 0'	1 jar		001	X	X					X			
09/07	8:45	Soil	BH22-27 1.5'	1 jar		002	X	X					X			
09/07	9:15	Soil	BH22-28 0'	1 jar		003	X	X					X			
09/07	9:30	Soil	BH22-28 1.5'	1 jar		004	X	X					X			
09/07	10:45	Soil	BH22-29 0'	1 jar		005	X	X					X			
09/07	11:05	Soil	BH22-29 1.5'	1 jar		006	X	X					X			
09/07	11:45	Soil	BH22-30 0'	1 jar		007	X	X					X			
09/07	12:00	Soil	BH22-30 1.5'	1 jar		008	X	X					X			
09/07	12:30	Soil	BH22-31 0'	1 jar		009	X	X					X			
09/07	12:40	Soil	BH22-31 1'	1 jar		010	X	X					X			
09/07	14:15	Soil	BH22-32 0'	1 jar		011	X	X					X			
09/07	14:30	Soil	BH22-32 1'	1 jar		012	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9-8-22	07:00	Lakin Pullman			9/8/22	700
9/8/22	1900		Sue Carmon		9/9/22	7:35

Remarks:

Direct bill to Marathon, Melodie Sanjari

cc: MMoffitt@vertex.ca, HMorton@vertex.ca, msanjari@marathonoil.com 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.

Chain-of-Custody Record

Client: **Vertex**

(Direct bill to Marathon)

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** 5 Day

Project Name:

Getty 35 State #001

Project #:

22E-01931

Project Manager:

Michael Moffitt

Sampler: Lakin Pullman

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.1 +0=2.1

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.	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)
09/07	15:40	Soil	BH22-33 0'	1 jar		013	X	X					X			
09/07	15:55	Soil	BH22-33 1'	1 jar		014	X	X					X			
09/07	16:15	Soil	BH22-34 0'	1 jar		015	X	X					X			
09/07	16:35	Soil	BH22-34 1'	1 jar		016	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
9-8-22	07:00	Lakin Pullman			9/8/22	700
9/8/22	1900		Self Courier		9/9/22	7:35

Remarks:

Direct bill to Marathon, Melodie Sanjari

cc: MMoffitt@vertex.ca, HMorton@vertex.ca, msanjari@marathonoil.com 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.

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

September 22, 2022

Michael Moffitt

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

RE: Getty 35 State 001 OrderNo.: 2209491

Dear Michael Moffitt:

Hall Environmental Analysis Laboratory received 10 sample(s) on 9/10/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2209491**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-35 0'
Project: Getty 35 State 001
Collection Date: 9/8/2022 8:45:00 AM
Lab ID: 2209491-001 **Matrix:** SOIL **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/15/2022 5:43:54 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/15/2022 5:43:54 AM
Surr: DNOP	91.7	21-129		%Rec	1	9/15/2022 5:43:54 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	9/16/2022 9:03:30 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	9/13/2022 12:35:31 PM
Toluene	ND	0.049		mg/Kg	1	9/13/2022 12:35:31 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/13/2022 12:35:31 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/13/2022 12:35:31 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	9/13/2022 12:35:31 PM
Surr: 4-Bromofluorobenzene	98.5	70-130		%Rec	1	9/13/2022 12:35:31 PM
Surr: Dibromofluoromethane	104	70-130		%Rec	1	9/13/2022 12:35:31 PM
Surr: Toluene-d8	108	70-130		%Rec	1	9/13/2022 12:35:31 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/13/2022 12:35:31 PM
Surr: BFB	97.4	70-130		%Rec	1	9/13/2022 12:35:31 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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2209491**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-35 1'
Project: Getty 35 State 001
Collection Date: 9/8/2022 9:00:00 AM
Lab ID: 2209491-002 **Matrix:** SOIL **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/15/2022 5:54:35 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/15/2022 5:54:35 AM
Surr: DNOP	50.8	21-129		%Rec	1	9/15/2022 5:54:35 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	200	61		mg/Kg	20	9/16/2022 9:40:31 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	9/13/2022 1:02:37 PM
Toluene	ND	0.047		mg/Kg	1	9/13/2022 1:02:37 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/13/2022 1:02:37 PM
Xylenes, Total	ND	0.094		mg/Kg	1	9/13/2022 1:02:37 PM
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	9/13/2022 1:02:37 PM
Surr: 4-Bromofluorobenzene	94.7	70-130		%Rec	1	9/13/2022 1:02:37 PM
Surr: Dibromofluoromethane	108	70-130		%Rec	1	9/13/2022 1:02:37 PM
Surr: Toluene-d8	105	70-130		%Rec	1	9/13/2022 1:02:37 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/13/2022 1:02:37 PM
Surr: BFB	93.8	70-130		%Rec	1	9/13/2022 1:02:37 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2209491**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-36 0'
Project: Getty 35 State 001
Collection Date: 9/8/2022 11:00:00 AM
Lab ID: 2209491-003 **Matrix:** SOIL
Received Date: 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	130	13		mg/Kg	1	9/16/2022 3:09:04 AM
Motor Oil Range Organics (MRO)	390	43		mg/Kg	1	9/16/2022 3:09:04 AM
Surr: DNOP	117	21-129		%Rec	1	9/16/2022 3:09:04 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	1400	61		mg/Kg	20	9/16/2022 10:17:34 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	9/13/2022 2:23:50 PM
Toluene	ND	0.050		mg/Kg	1	9/13/2022 2:23:50 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/13/2022 2:23:50 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/13/2022 2:23:50 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	9/13/2022 2:23:50 PM
Surr: 4-Bromofluorobenzene	96.8	70-130		%Rec	1	9/13/2022 2:23:50 PM
Surr: Dibromofluoromethane	108	70-130		%Rec	1	9/13/2022 2:23:50 PM
Surr: Toluene-d8	103	70-130		%Rec	1	9/13/2022 2:23:50 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/13/2022 2:23:50 PM
Surr: BFB	96.3	70-130		%Rec	1	9/13/2022 2:23:50 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2209491**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-36 1.5'
Project: Getty 35 State 001
Collection Date: 9/8/2022 11:20:00 AM
Lab ID: 2209491-004 **Matrix:** SOIL **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/15/2022 6:15:51 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/15/2022 6:15:51 AM
Surr: DNOP	67.6	21-129		%Rec	1	9/15/2022 6:15:51 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	400	60		mg/Kg	20	9/16/2022 10:29:55 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	9/13/2022 2:50:55 PM
Toluene	ND	0.050		mg/Kg	1	9/13/2022 2:50:55 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/13/2022 2:50:55 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/13/2022 2:50:55 PM
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	9/13/2022 2:50:55 PM
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	9/13/2022 2:50:55 PM
Surr: Dibromofluoromethane	107	70-130		%Rec	1	9/13/2022 2:50:55 PM
Surr: Toluene-d8	108	70-130		%Rec	1	9/13/2022 2:50:55 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/13/2022 2:50:55 PM
Surr: BFB	97.4	70-130		%Rec	1	9/13/2022 2:50:55 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2209491**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-37 0'
Project: Getty 35 State 001
Collection Date: 9/8/2022 11:45:00 AM
Lab ID: 2209491-005 **Matrix:** SOIL
Received Date: 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/15/2022 6:26:27 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/15/2022 6:26:27 AM
Surr: DNOP	83.7	21-129		%Rec	1	9/15/2022 6:26:27 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	230	60		mg/Kg	20	9/16/2022 10:42:16 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	9/13/2022 3:17:58 PM
Toluene	ND	0.049		mg/Kg	1	9/13/2022 3:17:58 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/13/2022 3:17:58 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/13/2022 3:17:58 PM
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	9/13/2022 3:17:58 PM
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	9/13/2022 3:17:58 PM
Surr: Dibromofluoromethane	110	70-130		%Rec	1	9/13/2022 3:17:58 PM
Surr: Toluene-d8	106	70-130		%Rec	1	9/13/2022 3:17:58 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/13/2022 3:17:58 PM
Surr: BFB	99.5	70-130		%Rec	1	9/13/2022 3:17:58 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2209491**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-37 1'
Project: Getty 35 State 001
Collection Date: 9/8/2022 12:00:00 PM
Lab ID: 2209491-006 **Matrix:** SOIL **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/15/2022 6:36:57 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/15/2022 6:36:57 AM
Surr: DNOP	84.7	21-129		%Rec	1	9/15/2022 6:36:57 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	220	60		mg/Kg	20	9/16/2022 10:54:38 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	9/13/2022 3:45:04 PM
Toluene	ND	0.049		mg/Kg	1	9/13/2022 3:45:04 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/13/2022 3:45:04 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/13/2022 3:45:04 PM
Surr: 1,2-Dichloroethane-d4	99.7	70-130		%Rec	1	9/13/2022 3:45:04 PM
Surr: 4-Bromofluorobenzene	94.7	70-130		%Rec	1	9/13/2022 3:45:04 PM
Surr: Dibromofluoromethane	98.4	70-130		%Rec	1	9/13/2022 3:45:04 PM
Surr: Toluene-d8	103	70-130		%Rec	1	9/13/2022 3:45:04 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/13/2022 3:45:04 PM
Surr: BFB	91.3	70-130		%Rec	1	9/13/2022 3:45:04 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2209491**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH22-38 0'
Project: Getty 35 State 001 **Collection Date:** 9/8/2022 2:00:00 PM
Lab ID: 2209491-007 **Matrix:** SOIL **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	110	15		mg/Kg	1	9/16/2022 7:57:24 PM
Motor Oil Range Organics (MRO)	260	50		mg/Kg	1	9/16/2022 7:57:24 PM
Surr: DNOP	88.0	21-129		%Rec	1	9/16/2022 7:57:24 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	180	60		mg/Kg	20	9/16/2022 11:06:59 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	9/13/2022 4:12:12 PM
Toluene	ND	0.048		mg/Kg	1	9/13/2022 4:12:12 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/13/2022 4:12:12 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/13/2022 4:12:12 PM
Surr: 1,2-Dichloroethane-d4	99.4	70-130		%Rec	1	9/13/2022 4:12:12 PM
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	9/13/2022 4:12:12 PM
Surr: Dibromofluoromethane	103	70-130		%Rec	1	9/13/2022 4:12:12 PM
Surr: Toluene-d8	108	70-130		%Rec	1	9/13/2022 4:12:12 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/13/2022 4:12:12 PM
Surr: BFB	96.0	70-130		%Rec	1	9/13/2022 4:12:12 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2209491**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-38 1.5'
Project: Getty 35 State 001
Collection Date: 9/8/2022 2:30:00 PM
Lab ID: 2209491-008 **Matrix:** SOIL **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	250	70		mg/Kg	5	9/16/2022 4:23:57 AM
Motor Oil Range Organics (MRO)	590	230		mg/Kg	5	9/16/2022 4:23:57 AM
Surr: DNOP	39.8	21-129		%Rec	5	9/16/2022 4:23:57 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	170	60		mg/Kg	20	9/16/2022 11:19:20 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	9/13/2022 4:39:19 PM
Toluene	ND	0.050		mg/Kg	1	9/13/2022 4:39:19 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/13/2022 4:39:19 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/13/2022 4:39:19 PM
Surr: 1,2-Dichloroethane-d4	99.5	70-130		%Rec	1	9/13/2022 4:39:19 PM
Surr: 4-Bromofluorobenzene	93.8	70-130		%Rec	1	9/13/2022 4:39:19 PM
Surr: Dibromofluoromethane	101	70-130		%Rec	1	9/13/2022 4:39:19 PM
Surr: Toluene-d8	108	70-130		%Rec	1	9/13/2022 4:39:19 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/13/2022 4:39:19 PM
Surr: BFB	97.7	70-130		%Rec	1	9/13/2022 4:39:19 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2209491**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-39 0'
Project: Getty 35 State 001
Collection Date: 9/8/2022 3:15:00 PM
Lab ID: 2209491-009 **Matrix:** SOIL **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	170	73		mg/Kg	5	9/16/2022 4:55:41 AM
Motor Oil Range Organics (MRO)	410	240		mg/Kg	5	9/16/2022 4:55:41 AM
Surr: DNOP	40.8	21-129		%Rec	5	9/16/2022 4:55:41 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	1100	60		mg/Kg	20	9/16/2022 11:31:41 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	9/13/2022 5:06:25 PM
Toluene	ND	0.047		mg/Kg	1	9/13/2022 5:06:25 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/13/2022 5:06:25 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/13/2022 5:06:25 PM
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	9/13/2022 5:06:25 PM
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	1	9/13/2022 5:06:25 PM
Surr: Dibromofluoromethane	108	70-130		%Rec	1	9/13/2022 5:06:25 PM
Surr: Toluene-d8	105	70-130		%Rec	1	9/13/2022 5:06:25 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/13/2022 5:06:25 PM
Surr: BFB	96.9	70-130		%Rec	1	9/13/2022 5:06:25 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2209491**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-39 1'
Project: Getty 35 State 001
Collection Date: 9/8/2022 3:25:00 PM
Lab ID: 2209491-010 **Matrix:** SOIL **Received Date:** 9/10/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	250	73		mg/Kg	5	9/16/2022 5:27:19 AM
Motor Oil Range Organics (MRO)	650	240		mg/Kg	5	9/16/2022 5:27:19 AM
Surr: DNOP	46.1	21-129		%Rec	5	9/16/2022 5:27:19 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	600	60		mg/Kg	20	9/16/2022 11:44:01 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	9/13/2022 5:33:27 PM
Toluene	ND	0.049		mg/Kg	1	9/13/2022 5:33:27 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/13/2022 5:33:27 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/13/2022 5:33:27 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	9/13/2022 5:33:27 PM
Surr: 4-Bromofluorobenzene	95.5	70-130		%Rec	1	9/13/2022 5:33:27 PM
Surr: Dibromofluoromethane	103	70-130		%Rec	1	9/13/2022 5:33:27 PM
Surr: Toluene-d8	106	70-130		%Rec	1	9/13/2022 5:33:27 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/13/2022 5:33:27 PM
Surr: BFB	96.9	70-130		%Rec	1	9/13/2022 5:33:27 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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2209491**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **MB-70236**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **70236**	RunNo: **91091**
Prep Date: **9/16/2022**	Analysis Date: **9/16/2022**	SeqNo: **3259799** Units: **mg/Kg**

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

Sample ID: **LCS-70236**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **70236**	RunNo: **91091**
Prep Date: **9/16/2022**	Analysis Date: **9/16/2022**	SeqNo: **3259800** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2209491**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **LCS-70132**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **70132**	RunNo: **91028**
Prep Date: **9/13/2022**	Analysis Date: **9/15/2022**	SeqNo: **3256966** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	36	15	50.00	0	71.7	64.4	127			
Surr: DNOP	2.8		5.000		55.6	21	129			

Sample ID: **MB-70132**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **70132**	RunNo: **91028**
Prep Date: **9/13/2022**	Analysis Date: **9/15/2022**	SeqNo: **3256972** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.1		10.00		70.7	21	129			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2209491**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **2209491-002ams** SampType: **MS4** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **BH22-35 1'** Batch ID: **70091** RunNo: **91000**

Prep Date: **9/11/2022** Analysis Date: **9/13/2022** SeqNo: **3254464** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.023	0.9390	0	106	75.8	123			
Toluene	1.0	0.047	0.9390	0	111	68.3	130			
Ethylbenzene	1.0	0.047	0.9390	0	108	76.6	132			
Xylenes, Total	3.0	0.094	2.817	0	108	74.7	132			
Surr: 1,2-Dichloroethane-d4	0.47		0.4695		101	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.4695		96.8	70	130			
Surr: Dibromofluoromethane	0.49		0.4695		105	70	130			
Surr: Toluene-d8	0.49		0.4695		105	70	130			

Sample ID: **2209491-002amsd** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **BH22-35 1'** Batch ID: **70091** RunNo: **91000**

Prep Date: **9/11/2022** Analysis Date: **9/13/2022** SeqNo: **3254465** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.024	0.9488	0	92.6	75.8	123	12.4	20	
Toluene	0.97	0.047	0.9488	0	103	68.3	130	6.46	20	
Ethylbenzene	0.96	0.047	0.9488	0	101	76.6	132	5.28	20	
Xylenes, Total	2.9	0.095	2.846	0	102	74.7	132	4.62	20	
Surr: 1,2-Dichloroethane-d4	0.48		0.4744		100	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.44		0.4744		92.2	70	130	0	0	
Surr: Dibromofluoromethane	0.49		0.4744		104	70	130	0	0	
Surr: Toluene-d8	0.51		0.4744		108	70	130	0	0	

Sample ID: **lcs-70091** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **BatchQC** Batch ID: **70091** RunNo: **91000**

Prep Date: **9/11/2022** Analysis Date: **9/13/2022** SeqNo: **3254479** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	96.2	80	120			
Toluene	1.0	0.050	1.000	0	105	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		103	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.2	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		106	70	130			
Surr: Toluene-d8	0.54		0.5000		107	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2209491**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **mb-70091**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **70091**	RunNo: **91000**
Prep Date: **9/11/2022**	Analysis Date: **9/13/2022**	SeqNo: **3254480** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		101	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		107	70	130			
Surr: Toluene-d8	0.54		0.5000		108	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2209491**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **2209491-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **BH22-35 0'**	Batch ID: **70091**	RunNo: **91000**
Prep Date: **9/11/2022**	Analysis Date: **9/13/2022**	SeqNo: **3254444** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.7	23.67	0	102	65.9	123			
Surr: BFB	460		473.5		96.3	70	130			

Sample ID: **2209491-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **BH22-35 0'**	Batch ID: **70091**	RunNo: **91000**
Prep Date: **9/11/2022**	Analysis Date: **9/13/2022**	SeqNo: **3254445** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.8	24.04	0	99.0	65.9	123	1.65	20	
Surr: BFB	480		480.8		99.8	70	130	0	0	

Sample ID: **lcs-70091**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **70091**	RunNo: **91000**
Prep Date: **9/11/2022**	Analysis Date: **9/13/2022**	SeqNo: **3254460** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	106	70	130			
Surr: BFB	500		500.0		100	70	130			

Sample ID: **mb-70091**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **70091**	RunNo: **91000**
Prep Date: **9/11/2022**	Analysis Date: **9/13/2022**	SeqNo: **3254461** 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	500		500.0		99.4	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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: 2209491

RcptNo: 1

Received By: Sean Livingston 9/10/2022 8:30:00 AM

Completed By: Sean Livingston 9/10/2022 9:37:01 AM

Reviewed By: TMC 9/10/22

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: SGL 9/10/22

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good				

Chain-of-Custody Record

Client: **Vertex**

(Direct bill to Marathon)

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time:

☒ Standard ☐ **Rush**_____

Project Name:

Getty 35 State #001

Project #:

22E-01931

Project Manager:

Michael Moffitt

Sampler: Lakin Pullman

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 1.2 ±0 = 1.2°

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. 2209491	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)
09/08	8:45	Soil	BH22-35 0'	1 jar		001	X	X					X			
09/08	9:00	Soil	BH22-35 1'	1 jar		002	X	X					X			
09/08	11:00	Soil	BH22-36 0'	1 jar		003	X	X					X			
09/08	11:20	Soil	BH22-36 1.5'	1 jar		004	X	X					X			
09/08	11:45	Soil	BH22-37 0'	1 jar		005	X	X					X			
09/08	12:00	Soil	BH22-37 1'	1 jar		006	X	X					X			
09/08	14:00	Soil	BH22-38 0'	1 jar		007	X	X					X			
09/08	14:30	Soil	BH22-38 1.5'	1 jar		008	X	X					X			
09/08	15:15	Soil	BH22-39 0'	1 jar		009	X	X					X			
09/08	15:25	Soil	BH22-39 1'	1 jar		010	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9-9-22	07:00	Lakin Pullman			9/9/22	700
9/9/22	1900		See comment		9/10/22	8:30

Remarks:

Direct bill to Marathon, Melodie Sanjari

cc: MMoffitt@vertex.ca, HMorton@vertex.ca, msanjari@marathonoil.com 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.

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

September 22, 2022

Michael Moffitt

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

RE: Getty 35 State 001 OrderNo.: 2209555

Dear Michael Moffitt:

Hall Environmental Analysis Laboratory received 16 sample(s) on 9/13/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2209555**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH22-40 0'
Project: Getty 35 State 001 **Collection Date:** 9/8/2022 3:45:00 PM
Lab ID: 2209555-001 **Matrix:** SOIL **Received Date:** 9/13/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/15/2022 1:06:14 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/15/2022 1:06:14 PM
Surr: DNOP	78.7	21-129		%Rec	1	9/15/2022 1:06:14 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	61		mg/Kg	20	9/18/2022 7:34:01 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	9/14/2022 7:12:18 PM
Toluene	ND	0.049		mg/Kg	1	9/14/2022 7:12:18 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/14/2022 7:12:18 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/14/2022 7:12:18 PM
Surr: 1,2-Dichloroethane-d4	97.6	70-130		%Rec	1	9/14/2022 7:12:18 PM
Surr: 4-Bromofluorobenzene	94.4	70-130		%Rec	1	9/14/2022 7:12:18 PM
Surr: Dibromofluoromethane	103	70-130		%Rec	1	9/14/2022 7:12:18 PM
Surr: Toluene-d8	108	70-130		%Rec	1	9/14/2022 7:12:18 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/14/2022 7:12:18 PM
Surr: BFB	101	70-130		%Rec	1	9/14/2022 7:12:18 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2209555**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-40 1'
Project: Getty 35 State 001
Collection Date: 9/8/2022 3:55:00 PM
Lab ID: 2209555-002 **Matrix:** SOIL **Received Date:** 9/13/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/15/2022 1:17:03 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/15/2022 1:17:03 PM
Surr: DNOP	86.7	21-129		%Rec	1	9/15/2022 1:17:03 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	170	60		mg/Kg	20	9/18/2022 8:35:45 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	9/14/2022 8:33:04 PM
Toluene	ND	0.050		mg/Kg	1	9/14/2022 8:33:04 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/14/2022 8:33:04 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/14/2022 8:33:04 PM
Surr: 1,2-Dichloroethane-d4	97.6	70-130		%Rec	1	9/14/2022 8:33:04 PM
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	9/14/2022 8:33:04 PM
Surr: Dibromofluoromethane	98.4	70-130		%Rec	1	9/14/2022 8:33:04 PM
Surr: Toluene-d8	101	70-130		%Rec	1	9/14/2022 8:33:04 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/14/2022 8:33:04 PM
Surr: BFB	96.0	70-130		%Rec	1	9/14/2022 8:33:04 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2209555**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-41 0'
Project: Getty 35 State 001
Collection Date: 9/9/2022 8:30:00 AM
Lab ID: 2209555-003 **Matrix:** SOIL **Received Date:** 9/13/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/15/2022 1:27:47 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/15/2022 1:27:47 PM
Surr: DNOP	99.2	21-129		%Rec	1	9/15/2022 1:27:47 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	9/18/2022 8:48:06 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	9/14/2022 9:54:09 PM
Toluene	ND	0.048		mg/Kg	1	9/14/2022 9:54:09 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/14/2022 9:54:09 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/14/2022 9:54:09 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/14/2022 9:54:09 PM
Surr: 4-Bromofluorobenzene	95.7	70-130		%Rec	1	9/14/2022 9:54:09 PM
Surr: Dibromofluoromethane	102	70-130		%Rec	1	9/14/2022 9:54:09 PM
Surr: Toluene-d8	105	70-130		%Rec	1	9/14/2022 9:54:09 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/14/2022 9:54:09 PM
Surr: BFB	96.8	70-130		%Rec	1	9/14/2022 9:54:09 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2209555**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-41 1'
Project: Getty 35 State 001
Collection Date: 9/9/2022 8:45:00 AM
Lab ID: 2209555-004 **Matrix:** SOIL **Received Date:** 9/13/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/15/2022 1:38:28 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/15/2022 1:38:28 PM
Surr: DNOP	98.2	21-129		%Rec	1	9/15/2022 1:38:28 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	520	60		mg/Kg	20	9/18/2022 9:00:27 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	9/14/2022 10:21:06 PM
Toluene	ND	0.049		mg/Kg	1	9/14/2022 10:21:06 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/14/2022 10:21:06 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/14/2022 10:21:06 PM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	9/14/2022 10:21:06 PM
Surr: 4-Bromofluorobenzene	96.1	70-130		%Rec	1	9/14/2022 10:21:06 PM
Surr: Dibromofluoromethane	100	70-130		%Rec	1	9/14/2022 10:21:06 PM
Surr: Toluene-d8	102	70-130		%Rec	1	9/14/2022 10:21:06 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/14/2022 10:21:06 PM
Surr: BFB	93.6	70-130		%Rec	1	9/14/2022 10:21:06 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2209555**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH22-42 0'
Project: Getty 35 State 001 **Collection Date:** 9/9/2022 9:45:00 AM
Lab ID: 2209555-005 **Matrix:** SOIL **Received Date:** 9/13/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	9/15/2022 1:59:48 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	9/15/2022 1:59:48 PM
Surr: DNOP	84.7	21-129		%Rec	1	9/15/2022 1:59:48 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	120	60		mg/Kg	20	9/18/2022 9:12:48 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	9/14/2022 10:48:00 PM
Toluene	ND	0.048		mg/Kg	1	9/14/2022 10:48:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/14/2022 10:48:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	9/14/2022 10:48:00 PM
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	9/14/2022 10:48:00 PM
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	9/14/2022 10:48:00 PM
Surr: Dibromofluoromethane	103	70-130		%Rec	1	9/14/2022 10:48:00 PM
Surr: Toluene-d8	103	70-130		%Rec	1	9/14/2022 10:48:00 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/14/2022 10:48:00 PM
Surr: BFB	95.6	70-130		%Rec	1	9/14/2022 10:48:00 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2209555**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-42 1'
Project: Getty 35 State 001
Collection Date: 9/9/2022 10:00:00 AM
Lab ID: 2209555-006 **Matrix:** SOIL
Received Date: 9/13/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	9/15/2022 2:10:30 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/15/2022 2:10:30 PM
Surr: DNOP	99.0	21-129		%Rec	1	9/15/2022 2:10:30 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	240	60		mg/Kg	20	9/18/2022 9:25:09 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	9/14/2022 11:14:53 PM
Toluene	ND	0.050		mg/Kg	1	9/14/2022 11:14:53 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/14/2022 11:14:53 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/14/2022 11:14:53 PM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	9/14/2022 11:14:53 PM
Surr: 4-Bromofluorobenzene	89.1	70-130		%Rec	1	9/14/2022 11:14:53 PM
Surr: Dibromofluoromethane	98.4	70-130		%Rec	1	9/14/2022 11:14:53 PM
Surr: Toluene-d8	107	70-130		%Rec	1	9/14/2022 11:14:53 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/14/2022 11:14:53 PM
Surr: BFB	95.0	70-130		%Rec	1	9/14/2022 11:14:53 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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2209555**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-43 0'
Project: Getty 35 State 001
Collection Date: 9/9/2022 11:25:00 AM
Lab ID: 2209555-007 **Matrix:** SOIL **Received Date:** 9/13/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/15/2022 2:21:10 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/15/2022 2:21:10 PM
Surr: DNOP	82.5	21-129		%Rec	1	9/15/2022 2:21:10 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	9/18/2022 9:37:29 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	9/14/2022 11:41:46 PM
Toluene	ND	0.049		mg/Kg	1	9/14/2022 11:41:46 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/14/2022 11:41:46 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/14/2022 11:41:46 PM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	9/14/2022 11:41:46 PM
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	9/14/2022 11:41:46 PM
Surr: Dibromofluoromethane	102	70-130		%Rec	1	9/14/2022 11:41:46 PM
Surr: Toluene-d8	101	70-130		%Rec	1	9/14/2022 11:41:46 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/14/2022 11:41:46 PM
Surr: BFB	94.8	70-130		%Rec	1	9/14/2022 11:41:46 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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2209555**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-43 1'
Project: Getty 35 State 001
Collection Date: 9/9/2022 11:35:00 AM
Lab ID: 2209555-008 **Matrix:** SOIL **Received Date:** 9/13/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/15/2022 2:31:51 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/15/2022 2:31:51 PM
Surr: DNOP	96.8	21-129		%Rec	1	9/15/2022 2:31:51 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	810	60		mg/Kg	20	9/18/2022 9:49:50 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	9/15/2022 12:08:44 AM
Toluene	ND	0.048		mg/Kg	1	9/15/2022 12:08:44 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/15/2022 12:08:44 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/15/2022 12:08:44 AM
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	9/15/2022 12:08:44 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	9/15/2022 12:08:44 AM
Surr: Dibromofluoromethane	102	70-130		%Rec	1	9/15/2022 12:08:44 AM
Surr: Toluene-d8	105	70-130		%Rec	1	9/15/2022 12:08:44 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/15/2022 12:08:44 AM
Surr: BFB	98.4	70-130		%Rec	1	9/15/2022 12:08:44 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2209555**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH22-44 0'
Project: Getty 35 State 001 **Collection Date:** 9/9/2022 12:15:00 PM
Lab ID: 2209555-009 **Matrix:** SOIL **Received Date:** 9/13/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/15/2022 2:42:31 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/15/2022 2:42:31 PM
Surr: DNOP	105	21-129		%Rec	1	9/15/2022 2:42:31 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	9/18/2022 10:02:11 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	9/15/2022 12:35:43 AM
Toluene	ND	0.049		mg/Kg	1	9/15/2022 12:35:43 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/15/2022 12:35:43 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/15/2022 12:35:43 AM
Surr: 1,2-Dichloroethane-d4	96.0	70-130		%Rec	1	9/15/2022 12:35:43 AM
Surr: 4-Bromofluorobenzene	98.1	70-130		%Rec	1	9/15/2022 12:35:43 AM
Surr: Dibromofluoromethane	100	70-130		%Rec	1	9/15/2022 12:35:43 AM
Surr: Toluene-d8	104	70-130		%Rec	1	9/15/2022 12:35:43 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/15/2022 12:35:43 AM
Surr: BFB	94.9	70-130		%Rec	1	9/15/2022 12:35:43 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2209555**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH22-44 1'
Project: Getty 35 State 001 **Collection Date:** 9/9/2022 12:25:00 PM
Lab ID: 2209555-010 **Matrix:** SOIL **Received Date:** 9/13/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/15/2022 3:27:34 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/15/2022 3:27:34 PM
Surr: DNOP	82.9	21-129		%Rec	1	9/15/2022 3:27:34 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	430	59		mg/Kg	20	9/18/2022 10:39:13 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	9/15/2022 1:02:35 AM
Toluene	ND	0.049		mg/Kg	1	9/15/2022 1:02:35 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/15/2022 1:02:35 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/15/2022 1:02:35 AM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	9/15/2022 1:02:35 AM
Surr: 4-Bromofluorobenzene	95.1	70-130		%Rec	1	9/15/2022 1:02:35 AM
Surr: Dibromofluoromethane	101	70-130		%Rec	1	9/15/2022 1:02:35 AM
Surr: Toluene-d8	103	70-130		%Rec	1	9/15/2022 1:02:35 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/15/2022 1:02:35 AM
Surr: BFB	96.7	70-130		%Rec	1	9/15/2022 1:02:35 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2209555**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-45 0'
Project: Getty 35 State 001
Collection Date: 9/9/2022 1:25:00 PM
Lab ID: 2209555-011 **Matrix:** SOIL **Received Date:** 9/13/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	21	13		mg/Kg	1	9/16/2022 11:48:55 AM
Motor Oil Range Organics (MRO)	91	44		mg/Kg	1	9/16/2022 11:48:55 AM
Surr: DNOP	88.4	21-129		%Rec	1	9/16/2022 11:48:55 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	9/18/2022 10:51:34 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	9/15/2022 1:29:30 AM
Toluene	ND	0.049		mg/Kg	1	9/15/2022 1:29:30 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/15/2022 1:29:30 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/15/2022 1:29:30 AM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/15/2022 1:29:30 AM
Surr: 4-Bromofluorobenzene	98.8	70-130		%Rec	1	9/15/2022 1:29:30 AM
Surr: Dibromofluoromethane	101	70-130		%Rec	1	9/15/2022 1:29:30 AM
Surr: Toluene-d8	99.2	70-130		%Rec	1	9/15/2022 1:29:30 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/15/2022 1:29:30 AM
Surr: BFB	95.6	70-130		%Rec	1	9/15/2022 1:29:30 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2209555**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-45 1'
Project: Getty 35 State 001
Collection Date: 9/9/2022 1:40:00 PM
Lab ID: 2209555-012 **Matrix:** SOIL **Received Date:** 9/13/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	200	14		mg/Kg	1	9/16/2022 2:31:54 PM
Motor Oil Range Organics (MRO)	420	46		mg/Kg	1	9/16/2022 2:31:54 PM
Surr: DNOP	83.3	21-129		%Rec	1	9/16/2022 2:31:54 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	570	61		mg/Kg	20	9/18/2022 11:03:56 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	9/15/2022 1:56:23 AM
Toluene	ND	0.048		mg/Kg	1	9/15/2022 1:56:23 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/15/2022 1:56:23 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/15/2022 1:56:23 AM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/15/2022 1:56:23 AM
Surr: 4-Bromofluorobenzene	95.8	70-130		%Rec	1	9/15/2022 1:56:23 AM
Surr: Dibromofluoromethane	101	70-130		%Rec	1	9/15/2022 1:56:23 AM
Surr: Toluene-d8	105	70-130		%Rec	1	9/15/2022 1:56:23 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/15/2022 1:56:23 AM
Surr: BFB	98.1	70-130		%Rec	1	9/15/2022 1:56:23 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2209555**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH22-46 0'
Project: Getty 35 State 001 **Collection Date:** 9/9/2022 2:20:00 PM
Lab ID: 2209555-013 **Matrix:** SOIL **Received Date:** 9/13/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/15/2022 4:10:29 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/15/2022 4:10:29 PM
Surr: DNOP	91.9	21-129		%Rec	1	9/15/2022 4:10:29 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	9/18/2022 11:16:17 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	9/15/2022 2:23:23 AM
Toluene	ND	0.049		mg/Kg	1	9/15/2022 2:23:23 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/15/2022 2:23:23 AM
Xylenes, Total	ND	0.098		mg/Kg	1	9/15/2022 2:23:23 AM
Surr: 1,2-Dichloroethane-d4	98.3	70-130		%Rec	1	9/15/2022 2:23:23 AM
Surr: 4-Bromofluorobenzene	94.1	70-130		%Rec	1	9/15/2022 2:23:23 AM
Surr: Dibromofluoromethane	99.5	70-130		%Rec	1	9/15/2022 2:23:23 AM
Surr: Toluene-d8	100	70-130		%Rec	1	9/15/2022 2:23:23 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/15/2022 2:23:23 AM
Surr: BFB	95.8	70-130		%Rec	1	9/15/2022 2:23:23 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2209555**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-46 1'
Project: Getty 35 State 001
Collection Date: 9/9/2022 2:40:00 PM
Lab ID: 2209555-014 **Matrix:** SOIL **Received Date:** 9/13/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/15/2022 4:21:04 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/15/2022 4:21:04 PM
Surr: DNOP	97.0	21-129		%Rec	1	9/15/2022 4:21:04 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	9/19/2022 12:40:30 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	9/15/2022 2:50:20 AM
Toluene	ND	0.048		mg/Kg	1	9/15/2022 2:50:20 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/15/2022 2:50:20 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/15/2022 2:50:20 AM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	9/15/2022 2:50:20 AM
Surr: 4-Bromofluorobenzene	96.4	70-130		%Rec	1	9/15/2022 2:50:20 AM
Surr: Dibromofluoromethane	102	70-130		%Rec	1	9/15/2022 2:50:20 AM
Surr: Toluene-d8	100	70-130		%Rec	1	9/15/2022 2:50:20 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/15/2022 2:50:20 AM
Surr: BFB	89.0	70-130		%Rec	1	9/15/2022 2:50:20 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2209555**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-47 0'
Project: Getty 35 State 001
Collection Date: 9/9/2022 3:35:00 PM
Lab ID: 2209555-015 **Matrix:** SOIL **Received Date:** 9/13/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	140	14		mg/Kg	1	9/16/2022 3:14:22 PM
Motor Oil Range Organics (MRO)	370	47		mg/Kg	1	9/16/2022 3:14:22 PM
Surr: DNOP	90.7	21-129		%Rec	1	9/16/2022 3:14:22 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	460	60		mg/Kg	20	9/19/2022 1:42:32 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	9/15/2022 3:17:20 AM
Toluene	ND	0.049		mg/Kg	1	9/15/2022 3:17:20 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/15/2022 3:17:20 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/15/2022 3:17:20 AM
Surr: 1,2-Dichloroethane-d4	96.1	70-130		%Rec	1	9/15/2022 3:17:20 AM
Surr: 4-Bromofluorobenzene	94.8	70-130		%Rec	1	9/15/2022 3:17:20 AM
Surr: Dibromofluoromethane	94.7	70-130		%Rec	1	9/15/2022 3:17:20 AM
Surr: Toluene-d8	105	70-130		%Rec	1	9/15/2022 3:17:20 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/15/2022 3:17:20 AM
Surr: BFB	96.8	70-130		%Rec	1	9/15/2022 3:17:20 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2209555**
Date Reported: **9/22/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-47 1'
Project: Getty 35 State 001
Collection Date: 9/9/2022 3:50:00 PM
Lab ID: 2209555-016 **Matrix:** SOIL **Received Date:** 9/13/2022 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	9/16/2022 12:37:55 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/16/2022 12:37:55 AM
Surr: DNOP	57.3	21-129		%Rec	1	9/16/2022 12:37:55 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/14/2022 7:30:00 PM
Surr: BFB	101	37.7-212		%Rec	1	9/14/2022 7:30:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	9/14/2022 7:30:00 PM
Toluene	ND	0.049		mg/Kg	1	9/14/2022 7:30:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/14/2022 7:30:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	9/14/2022 7:30:00 PM
Surr: 4-Bromofluorobenzene	90.4	70-130		%Rec	1	9/14/2022 7:30:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	580	59		mg/Kg	20	9/19/2022 1:54:57 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 range due to dilution or matrix interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209555**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **MB-70244**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **70244**	RunNo: **91123**							
Prep Date: **9/18/2022**	Analysis Date: **9/18/2022**	SeqNo: **3259916**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-70244**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **70244**	RunNo: **91123**							
Prep Date: **9/18/2022**	Analysis Date: **9/18/2022**	SeqNo: **3259917**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.3	90	110			

Sample ID: **MB-70254**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **70254**	RunNo: **91126**							
Prep Date: **9/19/2022**	Analysis Date: **9/19/2022**	SeqNo: **3261255**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-70254**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **70254**	RunNo: **91126**							
Prep Date: **9/19/2022**	Analysis Date: **9/19/2022**	SeqNo: **3261256**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.7	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2209555**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **LCS-70160** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **70160** RunNo: **91028**

Prep Date: **9/13/2022** Analysis Date: **9/14/2022** SeqNo: **3255495** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	34	15	50.00	0	68.9	64.4	127			
Surr: DNOP	3.4		5.000		68.7	21	129			

Sample ID: **MB-70160** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **70160** RunNo: **91028**

Prep Date: **9/13/2022** Analysis Date: **9/14/2022** SeqNo: **3255498** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.5		10.00		85.5	21	129			

Sample ID: **LCS-70156** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **70156** RunNo: **91028**

Prep Date: **9/13/2022** Analysis Date: **9/15/2022** SeqNo: **3256969** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	15	50.00	0	87.8	64.4	127			
Surr: DNOP	4.2		5.000		84.0	21	129			

Sample ID: **MB-70156** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **70156** RunNo: **91028**

Prep Date: **9/13/2022** Analysis Date: **9/15/2022** SeqNo: **3256975** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.3		10.00		83.3	21	129			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2209555**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **lcs-70154**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **70154**	RunNo: **91046**
Prep Date: **9/13/2022**	Analysis Date: **9/14/2022**	SeqNo: **3256334** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	72.3	137			
Surr: BFB	2100		1000		214	37.7	212			S

Sample ID: **mb-70154**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **70154**	RunNo: **91046**
Prep Date: **9/13/2022**	Analysis Date: **9/14/2022**	SeqNo: **3256335** 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	1100		1000		106	37.7	212			

Sample ID: **2209555-016AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH22-47 1'**	Batch ID: **70154**	RunNo: **91046**
Prep Date: **9/13/2022**	Analysis Date: **9/14/2022**	SeqNo: **3256337** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.9	24.61	0	104	70	130			
Surr: BFB	2200		984.3		225	37.7	212			S

Sample ID: **2209555-016AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH22-47 1'**	Batch ID: **70154**	RunNo: **91046**
Prep Date: **9/13/2022**	Analysis Date: **9/14/2022**	SeqNo: **3256338** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.9	24.68	0	113	70	130	8.30	20	
Surr: BFB	2400		987.2		243	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2209555**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **lcs-70154**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **70154**	RunNo: **91046**
Prep Date: **9/13/2022**	Analysis Date: **9/14/2022**	SeqNo: **3256385** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.3	80	120			
Toluene	0.93	0.050	1.000	0	92.8	80	120			
Ethylbenzene	0.93	0.050	1.000	0	93.2	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.9	80	120			
Surr: 4-Bromofluorobenzene	0.91		1.000		91.5	70	130			

Sample ID: **mb-70154**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **70154**	RunNo: **91046**
Prep Date: **9/13/2022**	Analysis Date: **9/14/2022**	SeqNo: **3256386** 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		90.6	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 range due to dilution or matrix interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209555**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **2209555-002ams** SampType: **MS4** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **BH22-40 1'** Batch ID: **70143** RunNo: **91082**

Prep Date: **9/13/2022** Analysis Date: **9/14/2022** SeqNo: **3257936** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9862	0	105	75.8	123			
Toluene	1.1	0.049	0.9862	0	115	68.3	130			
Ethylbenzene	1.1	0.049	0.9862	0	113	76.6	132			
Xylenes, Total	3.4	0.099	2.959	0	114	74.7	132			
Surr: 1,2-Dichloroethane-d4	0.47		0.4931		95.4	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.4931		92.4	70	130			
Surr: Dibromofluoromethane	0.50		0.4931		101	70	130			
Surr: Toluene-d8	0.52		0.4931		106	70	130			

Sample ID: **2209555-002amsd** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **BH22-40 1'** Batch ID: **70143** RunNo: **91082**

Prep Date: **9/13/2022** Analysis Date: **9/14/2022** SeqNo: **3257937** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	0.9921	0	98.1	75.8	123	6.57	20	
Toluene	1.0	0.050	0.9921	0	103	68.3	130	10.3	20	
Ethylbenzene	1.0	0.050	0.9921	0	104	76.6	132	8.01	20	
Xylenes, Total	3.1	0.099	2.976	0	104	74.7	132	8.82	20	
Surr: 1,2-Dichloroethane-d4	0.50		0.4960		101	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.47		0.4960		94.1	70	130	0	0	
Surr: Dibromofluoromethane	0.50		0.4960		100	70	130	0	0	
Surr: Toluene-d8	0.51		0.4960		103	70	130	0	0	

Sample ID: **lcs-70143** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **BatchQC** Batch ID: **70143** RunNo: **91082**

Prep Date: **9/13/2022** Analysis Date: **9/14/2022** SeqNo: **3257951** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	95.7	80	120			
Toluene	1.0	0.050	1.000	0	105	80	120			
Ethylbenzene	1.1	0.050	1.000	0	107	80	120			
Xylenes, Total	3.2	0.10	3.000	0	107	80	120			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		102	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.6	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		101	70	130			
Surr: Toluene-d8	0.53		0.5000		107	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2209555**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **mb-70143**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **70143**	RunNo: **91082**
Prep Date: **9/13/2022**	Analysis Date: **9/14/2022**	SeqNo: **3257952** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		102	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.6	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.55		0.5000		110	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2209555**

22-Sep-22

Client: Vertex Resources Services, Inc.

Project: Getty 35 State 001

Sample ID: **2209555-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **BH22-40 0'**	Batch ID: **70143**	RunNo: **91082**
Prep Date: **9/13/2022**	Analysis Date: **9/14/2022**	SeqNo: **3257875** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	23.97	0	111	65.9	123			
Surr: BFB	480		479.4		99.2	70	130			

Sample ID: **2209555-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **BH22-40 0'**	Batch ID: **70143**	RunNo: **91082**
Prep Date: **9/13/2022**	Analysis Date: **9/14/2022**	SeqNo: **3257877** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	23.92	0	107	65.9	123	3.20	20	
Surr: BFB	460		478.5		96.7	70	130	0	0	

Sample ID: **lcs-70143**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **70143**	RunNo: **91082**
Prep Date: **9/13/2022**	Analysis Date: **9/14/2022**	SeqNo: **3257905** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	70	130			
Surr: BFB	510		500.0		101	70	130			

Sample ID: **mb-70143**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **70143**	RunNo: **91082**
Prep Date: **9/13/2022**	Analysis Date: **9/14/2022**	SeqNo: **3257907** 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	490		500.0		98.3	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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: **2209555** RcptNo: 1

Received By: **Cheyenne Cason** **9/13/2022 7:50:00 AM** Chel

Completed By: **Cheyenne Cason** **9/13/2022 8:41:55 AM** Chel

Reviewed By: KRC 9.13.22

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: JR 9/13/22

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.9	Good	Not Present			
2	3.0	Good	Not Present			

Chain-of-Custody Record

Client: **Vertex**

(Direct bill to Marathon)

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** 5 Days

Project Name:

Getty 35 State #001

Project #:

22E-01931

Project Manager:

Michael Moffitt

Sampler: Lakin Pullman

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.9+0.1=3.0

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. 2209555	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)
09/08	15:45	Soil	BH22-40 0'	1 jar		001	X	X					X			
09/08	15:55	Soil	BH22-40 1'	1 jar		002	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
9-11-22	12:00					
9/12/22	1900		Greg Cour		9/13/22	0750

Remarks:
Direct bill to Marathon, Melodie Sanjari
cc: MMoffitt@vertex.ca, HMorton@vertex.ca, msanjari@marathonoil.com for Final Report

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(Direct bill to Marathon)

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Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

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☐ NELAC ☐ Other_____

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☒ Standard ☒ **Rush** 5 Day

Project Name:

Getty 35 State #001

Project #:

22E-01931

Project Manager:

Michael Moffitt

Sampler: Lakin Pullman

On Ice: ☒ Yes ☐ No

# of Coolers: 1 3.0

Cooler Temp(including CF): 2.9+0.1=2.9 Corr 9/13/22

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09/09	8:30	Soil	BH22-41 0'	1 jar		003	X	X					X									
09/09	8:45	Soil	BH22-41 1'	1 jar		004	X	X					X									
09/09	9:45	Soil	BH22-42 0'	1 jar		005	X	X					X									
09/09	10:00	Soil	BH22-42 1'	1 jar		006	X	X					X									
09/09	11:25	Soil	BH22-43 0'	1 jar		007	X	X					X									
09/09	11:35	Soil	BH22-43 1'	1 jar		008	X	X					X									
09/09	12:15	Soil	BH22-44 0'	1 jar		009	X	X					X									
09/09	12:25	Soil	BH22-44 1'	1 jar		010	X	X					X									
09/09	13:25	Soil	BH22-45 0'	1 jar		011	X	X					X									
09/09	13:40	Soil	BH22-45 1'	1 jar		012	X	X					X									
09/09	14:20	Soil	BH22-46 0'	1 jar		013	X	X					X									
09/09	14:40	Soil	BH22-46 1'	1 jar		014	X	X					X									

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9-11-22	12:00	Lakin Pullman				
9/12/22	1900				9/12/22	915
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
			Corr 9/13/22			0750

Remarks:
Direct bill to Marathon, Melodie Sanjari
cc: MMoffitt@vertex.ca, HMorton@vertex.ca, msanjari@marathonoil.com for Final Report

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(Direct bill to Marathon)

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email or Fax#:

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☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☒ **Rush** 5 Day

Project Name:

Getty 35 State #001

Project #:

22E-01931

Project Manager:

Michael Moffitt

Sampler: Lakin Pullman

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.9+0.1 = 2.9

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Analysis Request

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09/09	15:35	Soil	BH22-47 0'	1 jar		015	X	X					X			
09/09	15:50	Soil	BH22-47 1'	1 jar		016	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
9-11-22	12:00	Lakin Pullman			9/12/22	915
9/12/22	1900					0750

Remarks:

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

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

CONDITIONS

Action 154830

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 990 Town & Country Blvd. Houston, TX 77024	OGRID: 372098
	Action Number: 154830
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	OCD approves the submitted work plan with conditions of approval.	2/7/2023
amaxwell	OCD denies the variance request to collect base samples every 1,000 sq feet. OCD approves the collection of base samples every 500 square feet. OCD also agrees with the proposed collection of side wall samples every 200 square feet.	2/7/2023
amaxwell	Please submit a closure report via the OCD permitting portal by 5/12/2023.	2/7/2023