



Incident Number: nAB1803838673

Remediation Assessment and Closure

Apache 25 Federal #009

Section 25, Township 22 South, Range 30 East

API: 30-015-32797

County: Eddy

Vertex File Number: 25A-01155

Prepared for:

Devon Energy Production Company, LP

Prepared by:

Vertex Resource Services Inc.

Date:

September 2025

Devon Energy Production Company, LP
Apache 25 Federal #009

Remediation Assessment and Closure
September 2025

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Section 25, Township 22 South, Range 30 East
API: 30-015-32797
County: Eddy

Prepared for:
Devon Energy Production Company, LP
5321 Buena Vista Drive
Carlsbad, New Mexico 88220

New Mexico Oil Conservation Division
508 West Texas Avenue
Artesia, New Mexico 88210

Prepared by:
Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad, New Mexico 88220



Stephanie McCarty, B.Sc.
ENVIRONMENTAL SPECIALIST, REPORTING

September 29, 2025

Date



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

September 29, 2025

Date

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1.0 Introduction

Devon Energy Production Company, LP (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a Remediation Assessment and Closure for a produced water and crude oil release that occurred on January 23, 2018, at Apache 25 Federal #009 API 30-015-32797 (hereafter referred to as the "site"). Devon submitted an initial C-141 Release Notification (Appendix A) to New Mexico Oil Conservation Division (NMOCD) District 2 on February 6, 2018. Incident ID number NAB1803838673, 2RP-4606 was assigned to this incident.

This report provides a description of the release assessment and remediation activities associated with the site. The information presented demonstrates that closure criteria established in Table I of 19.15.29.12 of the *New Mexico Administrative Code* (NMAC; New Mexico Oil Conservation Division, 2018) related to NMOCD has been met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NMOCD for closure of this release, with the understanding that restoration of the release site will be deferred until such time as all oil and gas activities are terminated and the site is reclaimed as per NMAC 19.15.29.13.

2.0 Incident Description

The release occurred on January 23, 2018, due to a broken poly line at the wellhead. The incident was reported on February 6, 2018, and involved the release of approximately 4.56 barrels (bbl) of produced water and 1.52 bbl of produced oil on the pad site. Approximately 3.5 bbl of free fluid was removed during initial clean-up. Additional details relevant to the release are presented in the C-141 Report.

3.0 Site Characteristics

The site is located approximately 15.8 miles east-northeast of Loving, New Mexico. The legal location for the site is Section 25, Township 22 South and Range 30 East in Eddy County, New Mexico. The release area is located on Bureau of Land Management property. An aerial photograph and site schematic are presented on Figure 1.

The location is typical of oil and gas exploration and production sites in the Permian Basin and is currently used for oil production. The following sections specifically describe the release area on the constructed pad in proximity to the wellhead (Figure 1).

The Geological Map of New Mexico indicates the site's surface geology primarily comprises Qep - Eolian and piedmont deposits (New Mexico Bureau of Geology and Mineral Resources, 2025). The karst geology potential for the site is low (United States Department of the Interior, Bureau of Land Management, 2018). The surrounding landscape is associated with fan piedmonts and plains with elevations ranging between 2,000 and 5,700 feet. The climate is semiarid with average annual precipitation ranging between 5 and 15 inches. Predominant soil textures around the site are well-drained fine sands and sandy clay loams with low runoff potential (United States Department of Agriculture, Natural Resources Conservation Service, 2025). Using information from the United States Department of Agriculture, the dominant vegetation was determined to be grasses interspersed with shrubs and half-shrubs (United States Department of Agriculture, Natural Resources Conservation Service, 2025). Limited to no vegetation is allowed to grow on the compacted production pad.

4.0 Closure Criteria Determination

The nearest active well to the site is a United States Department of Energy monitoring well 0.82 miles to the northeast (New Mexico Office of the State Engineer, 2025).

There is no surface water present at the site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is an intermittent stream located approximately 5,484 feet north of the site (United States Fish and Wildlife Service, 2025). At the site, there are no continuously flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC

The nearest depth to groundwater reference to the site is an exploratory borehole advanced 0.78 miles to the northeast on December 15, 2023. The borehole was terminated at 55 feet below ground surface (bgs) without encountering the water surface (New Mexico Office of the State Engineer, 2025). Information pertaining to the depth to ground water determination is included in Appendix B.

Devon Energy Production Company, LP
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Table 1. Closure Criteria Determination			
Site Name: Apache 25 Federal #009			
Spill Coordinates: 32.361248,-103.8309479		X: 609991	Y: 3581079
Site Specific Conditions		Value	Unit
1	Depth to Groundwater (nearest reference)	>55	feet
	Distance between release and nearest DTGW reference	4,124	feet
		0.78	miles
Date of nearest DTGW reference measurement		December 15, 2023	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	5,484	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	7,496	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	10,802	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or	7,819	feet
	ii) Within 1000 feet of any fresh water well or spring	4,328	feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	10,937	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	15,888	feet
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
	Distance between release and nearest Medium/High/Critical Karst	2,773	feet
10	Within a 100-year Floodplain	>500	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	25,942	feet
11	Soil Type	Fine sand, sandy clay loam	
12	Ecological Classification	Loamy Sand	
13	Geology	Qep- Eolian and piedmont deposits	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'	<50' 51-100' >100'

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The depth to groundwater reference exceeded 0.5 miles from the release area; therefore, the closure criteria for remediation and reclamation of the site was determined to be associated with the strictest constituent concentration limits as presented in Table 2.

Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Limit
< 50 feet	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

TDS – total dissolved solids

TPH – total petroleum hydrocarbons, GRO – gas range organics, DRO – diesel range organics, MRO – motor oil range organics

BTEX – benzene, toluene, ethylbenzene and xylenes

5.0 Remedial Actions Taken

5.1 Characterization and Initial Remediation

Preliminary site characterization of the release around the wellhead was completed by Vertex between July 8 and August 17, 2020. The total impacted area was determined to be 1,875 square feet. The Daily Field Reports (DFRs) associated with the characterization are included in Appendix C. Characterization sample locations and historical release area are presented on Figure 1. Characterization laboratory results are summarized in Table 3.

Initial remediation efforts of the areas northeast, east, and south of the wellhead were executed between December 7, 2020, and January 6, 2021. Vertex personnel supervised the excavation of impacted soils. Field screening results were used to identify areas requiring further remediation. Field screening consisted of analysis using a Photo Ionization Detector (volatile hydrocarbons), Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and an electroconductivity meter (chloride). Soils were removed to depths between 1 and 2 feet bgs. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. Daily Field Reports documenting various phases of the initial remediation are presented in Appendix C. The initial remediation did not include the area in immediate proximity to the wellhead.

Notifications that confirmatory samples were being collected were provided to the NMOCD on December 6, 2020, and January 4, 2021, and are included in Appendix D. Confirmatory composite samples were collected from the base and walls of the excavation in increments no greater than 200 square feet. The areas of initial excavation bases and walls were approximately 2,967 and 465 square feet, respectively. A total of 15 base samples and nine wall samples were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to the Hall Environmental Analysis Laboratory under chain-of-custody protocols and analyzed for BTEX (EPA Method 8021B), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D) and total chlorides (EPA Method 300.0). Laboratory results are presented in Table 4, and the laboratory data reports are included in Appendix E.

The original laboratory results for excavation base sample BS20-01 and excavation wall sample WS20-02 exceeded closure the threshold for total petroleum hydrocarbons (TPH). The backhoe was used to scrape material from the areas in question to present fresh surfaces for collection of confirmation samples. Laboratory results for re-collected confirmation samples BS20-01 at 1.25 feet bgs and WS20-02 were below NMOCD strictest criteria for chloride and TPH. Confirmation samples collected and submitted for laboratory testing are presented on Figure 2 and in Table 4. All final confirmation samples collected from the initial remediation area were below strictest closure criteria.

5.2 Additional Characterization and Remediation

Vertex conducted additional characterization activities on April 14 and 15, 2023, to complete horizontal and vertical delineation of the release and remediation area. The DFRs associated with the characterization are included in Appendix C. Characterization sample locations and laboratory results are presented on Figure 1 and in Table 3, respectively. On May 8, 2025, Devon submitted a Remediation Work Plan to NMOCD. The work plan presented the work completed to date and a proposal to finalize the remediation by completing the excavation in immediate proximity to the wellhead. On June 5, 2025, the Remediation Work Plan was approved with conditions:

“The Remediation Plan is Conditionally Approved. This is an old legacy release that occurred in early 2018. Sampling to a depth of 4 feet is not sufficient to verify chlorides. Chlorides most likely moved down the soil column over the years. The OCD requests a deeper soil investigation to ensure chlorides are not present. All samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Floor confirmation samples should be delineated/excavated to meet closure criteria standards from Table 1 of the OCD Spill Rule for site assessment/characterization/proven depth to water determination. Sidewall/edge samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Please make sure that the edge of the release extent is accurately defined. Please collect confirmation samples, representing no more than 200 ft². The work will need to be completed in 90 days after the report has been reviewed.”

Additional borehole BH25-18 was advanced within the remaining remediation area to supplement vertical delineation per request. Samples were collected in 1-foot intervals to 9 feet bgs. Characterization sample locations and laboratory results are presented on Figure 1 and in Table 3, respectively.

Final remediation efforts of the area in proximity to the wellhead were executed between August 13 and September 5, 2025. Vertex personnel supervised the excavation of impacted soils. Field screening results were used to identify areas requiring further remediation. Field screening consisted of analysis using a Photo Ionization Detector (volatile hydrocarbons), Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and Silver Nitrate Titration (chloride). Soils were removed to 2.5 feet in depth. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. Daily Field Reports documenting various phases of the final remediation are presented in Appendix C.

Notifications that confirmatory samples were being collected were provided to the NMOCD on August 11, 28 and September 3, 2025. Confirmatory composite samples were collected from the base and walls of the excavation in increments no greater than 200 square feet. A total of 17 base samples and 10 wall samples were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Eurofins Environment

Testing in Albuquerque, New Mexico, under chain-of-custody protocols and analyzed for BTEX (EPA Method 8021B), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D) and total chlorides (EPA Method 300.0). Laboratory results are presented in Table 4, and the laboratory data reports are included in Appendix E.

Upon completion of remedial actions, approximately 3,200 square feet and 146 cubic yards of the pad surface was remediated to closure criteria. All final confirmation samples collected from the remediation area were below strictest closure criteria.

6.0 Closure Request

Vertex recommends no additional remediation action to address the release at Apache 25 Federal #009. Laboratory analyses of the final confirmatory samples showed constituent of concern concentration levels below NMOCD remediation closure criteria for areas where depth to groundwater is less than 50 feet bgs as shown in Table 2. There are no anticipated risks to human, ecological or hydrological receptors associated with the release sites. The excavation was backfilled with non-waste-containing, uncontaminated, earthen material, sourced locally, and placed to meet the site's existing grade to prevent ponding of water and erosion.

Devon Energy Production Company, LP, requests that this incident (nAB1803838673) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. Devon certifies that all information in this report and the attachments is correct, and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain closure on the January 23, 2018, release at Apache 25 Federal #009.

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

7.0 References

- Google Inc. (2025). *Google Earth Pro (Version 7.3.3)* [Software]. Retrieved from <https://earth.google.com>
- New Mexico Bureau of Geology and Mineral Resources. (2025). *Interactive Geologic Map*. Retrieved from <https://maps.nmt.edu/>
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Devon Energy Production Company, LP
Apache 25 Federal #009

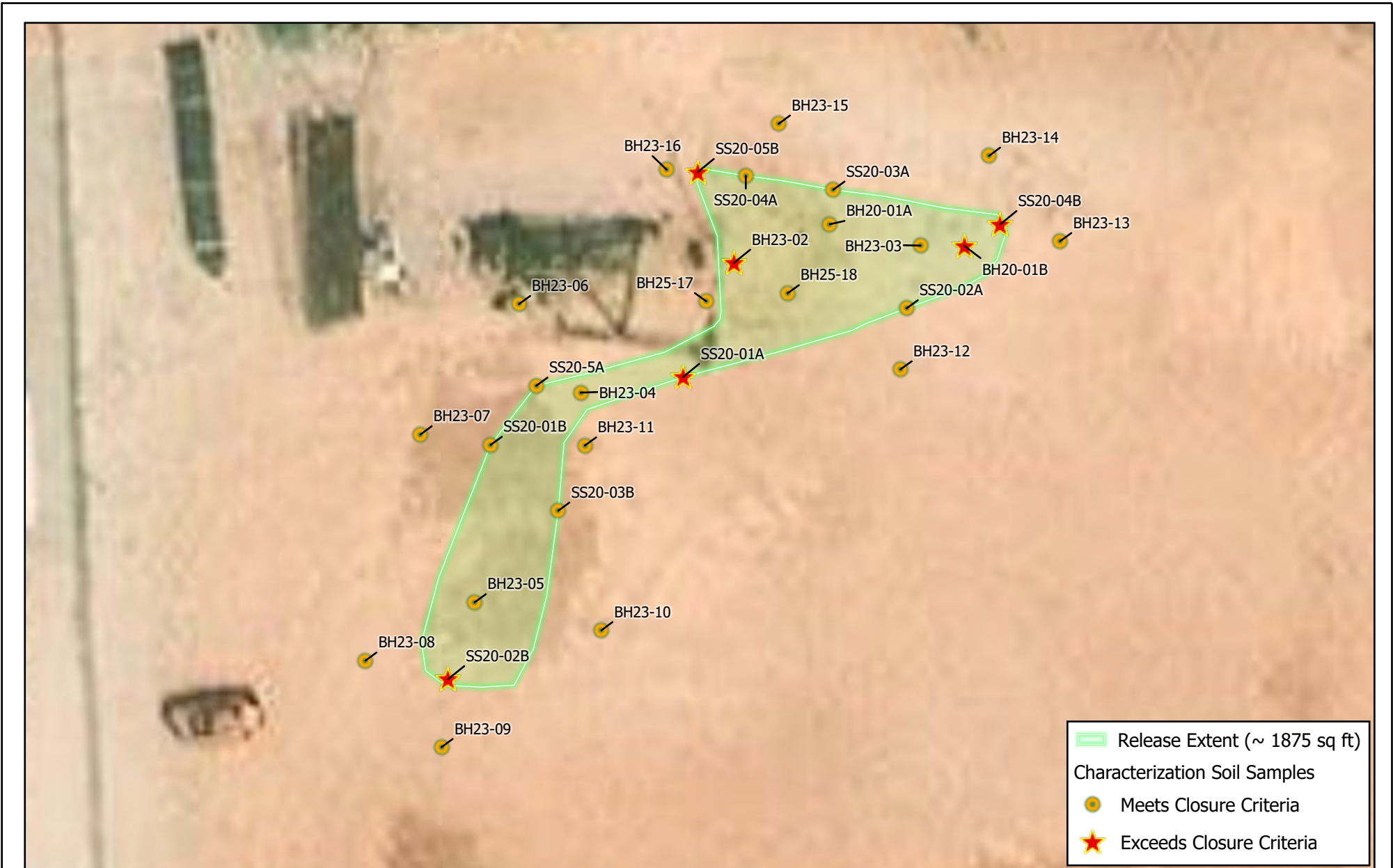
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8.0 Limitations

This report has been prepared for the sole benefit of Devon Energy Production Company, LP. This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division and the Bureau of Land Management, without the express written consent of Vertex Resource Services Inc. (Vertex) and Devon Energy Production Company, LP. Any use of this report by a third party, or any reliance on decisions made based on it, or damages suffered as a result of the use of this report are the sole responsibility of the user.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted scientific practices current at the time the work was performed. The conclusions and recommendations presented represent the best judgement of Vertex based on the data collected during the assessment. Due to the nature of the assessment and the data available, Vertex cannot warrant against undiscovered environmental liabilities. Conclusions and recommendations presented in this report should not be considered legal advice.

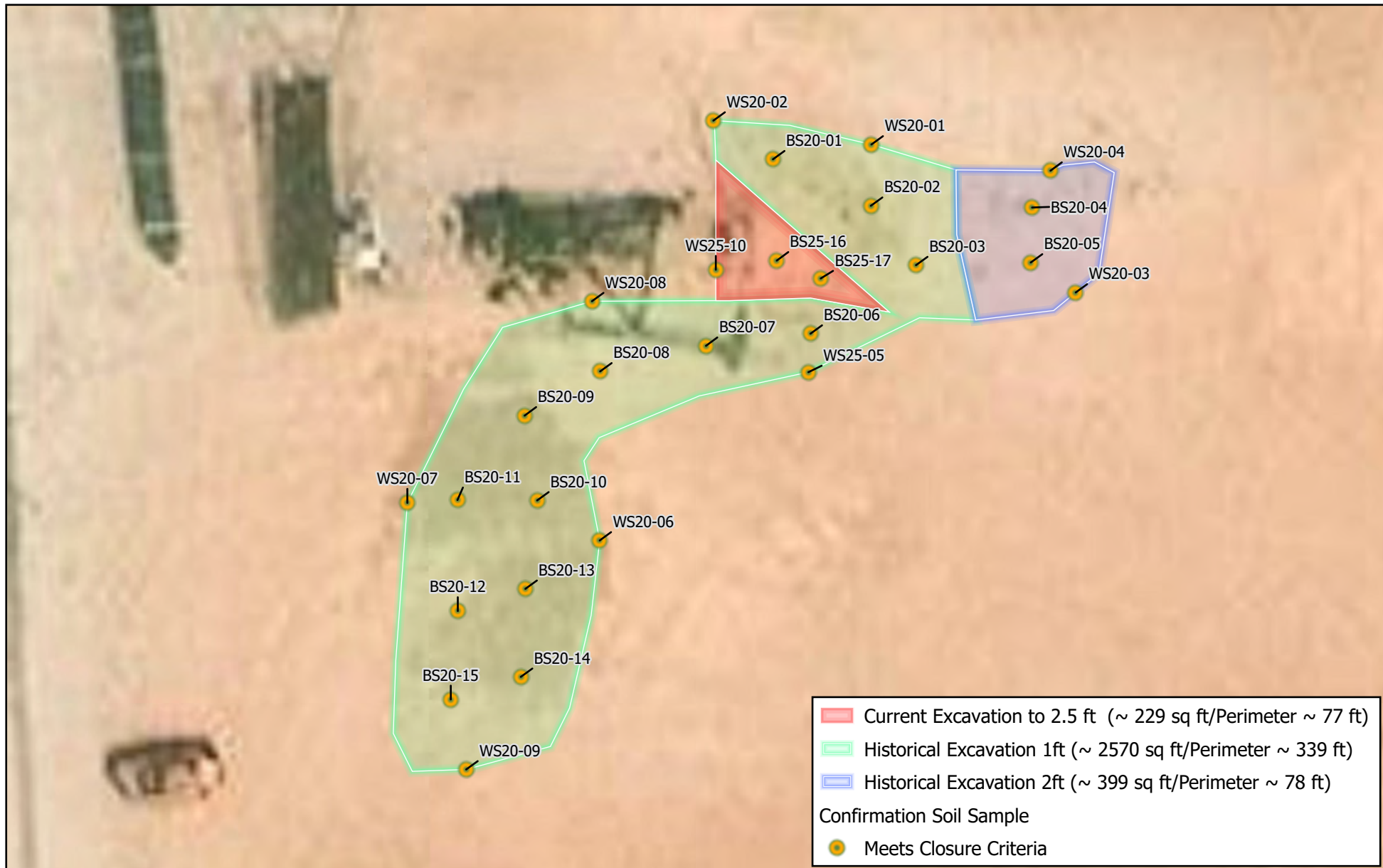
FIGURES



	<p>Map Center: Lat/Long: 32.361185°N, 103.830954°W</p> <p>Date: Sep 04/25</p> <p>NAD 1983 StatePlane New Mexico East FIPS 3001 Feet</p>	<p>Characterization Sampling Site Schematic Apache 25 Federal #009</p>	<p>FIGURE: 1</p>
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Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes. Note: Georeferenced image from Esri, 2025. Site features from GPS, Vertex, 2025.

VERSATILITY. EXPERTISE.



VERTEX

Map Center:
Lat/Long: 32.361193°N, 103.830969°W
Date: Sep 04/25

0 10 20 ft
NAD 1983 StatePlane New Mexico East FIPS 3001 Feet

N

Confirmation Sample Site Schematic
Apache 25 Federal #009

FIGURE:
2

devon

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

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

TABLES

Client Name: Devon Energy Production Company, LP
 Site Name: Apache 25 Federal #009
 NM OCD Tracking #: nAB1803838673
 Project #: 25A-01155
 Lab Reports: 2007552, 2008A76, 2304732, 885-26815, 855-30750-1

Table 3. Characterization Sample Laboratory Results - Depth to Groundwater <50 feet bgs

Sample Description			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile		Extractable					Chloride Concentration (mg/kg)
			Benzene (mg/kg)	BTEX (Total) (mg/kg)	Gasoline Range Organics (GRO) (mg/kg)	Diesel Range Organics (DRO) (mg/kg)	Motor Oil Range Organics (MRO) (mg/kg)	(GRO + DRO) (mg/kg)	Total Petroleum Hydrocarbons (TPH) (mg/kg)	
SS20-01A	0	July 8, 2020	ND	ND	ND	ND	ND	ND	ND	ND
SS20-02A	0	July 8, 2020	ND	ND	ND	ND	ND	ND	ND	140
SS20-03A	0	July 8, 2020	ND	ND	ND	ND	ND	ND	ND	ND
SS20-04A	0	July 8, 2020	ND	ND	ND	ND	ND	ND	ND	95
SS20-05A	0	July 8, 2020	ND	ND	ND	ND	ND	ND	ND	340
BH20-01A	0-0.5	July 8, 2020	ND	ND	ND	4,000	3,400	4,000	7,400	1,400
	1	July 8, 2020	ND	ND	ND	ND	ND	ND	ND	61
SS20-01B	0	August 17, 2020	ND	ND	ND	ND	ND	ND	ND	380
SS20-02B	0	August 17, 2020	ND	ND	ND	ND	ND	ND	ND	880
SS20-03B	0	August 17, 2020	ND	ND	ND	ND	ND	ND	ND	570
SS20-04B	0	August 17, 2020	ND	ND	ND	ND	ND	ND	ND	790
SS20-05B	0	August 17, 2020	ND	ND	ND	ND	ND	ND	ND	660
BH20-01B	0-0.5	August 17, 2020	ND	ND	ND	ND	ND	ND	ND	300
	1	August 17, 2020	ND	ND	ND	1,900	2,400	1,900	4,300	810
BH23-02*	0	April 14, 2023	ND	ND	ND	180	190	180	370	430
	2	April 14, 2023	ND	ND	ND	ND	ND	ND	ND	120
	4	April 14, 2023	ND	ND	ND	ND	ND	ND	ND	160
	6	April 14, 2023	ND	ND	ND	ND	ND	ND	ND	73
BH23-03	0	April 14, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 14, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	4	April 14, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-04	0	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	4	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	61
BH23-05	0	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	4	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-06	0	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-07	0	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-08	0	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-09	0	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-10	0	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND



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Table 3. Characterization Sample Laboratory Results - Depth to Groundwater <50 feet bgs

Sample Description			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile		Extractable					Chloride Concentration (mg/kg)
			Benzene (mg/kg)	BTEX (Total) (mg/kg)	Gasoline Range Organics (GRO) (mg/kg)	Diesel Range Organics (DRO) (mg/kg)	Motor Oil Range Organics (MRO) (mg/kg)	(GRO + DRO) (mg/kg)	Total Petroleum Hydrocarbons (TPH) (mg/kg)	
BH23-11	0	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-12	0	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	86
	2	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	190
BH23-13	0	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
BH23-14	0	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	92
BH23-15	0	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	120
BH23-16	0	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	ND
	2	April 15, 2023	ND	ND	ND	ND	ND	ND	ND	93
BH25-17	0	June 12, 2025	ND	ND	ND	ND	ND	ND	ND	170
	1	June 12, 2025	ND	ND	ND	24	ND	24	24	180
	2	June 12, 2025	ND	ND	ND	22	ND	22	22	100
	2.5	June 12, 2025	ND	ND	ND	10	ND	10	10	330
BH25-18*	0	June 12, 2025	ND	ND	ND	16	ND	16	16	400
	1	June 12, 2025	ND	ND	ND	ND	ND	ND	ND	500
	2	June 12, 2025	ND	ND	ND	ND	ND	ND	ND	360
	3	August 8, 2025	ND	ND	ND	ND	ND	ND	ND	140
	4	August 8, 2025	ND	ND	ND	ND	ND	ND	ND	300
	5	August 8, 2025	ND	ND	ND	ND	ND	ND	ND	120
	6	August 8, 2025	ND	ND	ND	ND	ND	ND	ND	240
	7	August 8, 2025	ND	ND	ND	ND	ND	ND	ND	280
8	August 8, 2025	ND	ND	ND	ND	ND	ND	ND	320	
	9	August 8, 2025	ND	ND	ND	ND	ND	ND	ND	200

"ND" Not Detected at the Reporting Limit

"-" indicates not analyzed/assessed

"*" Borehole exceeds a depth of 4ft in compliance with the conditional acceptance

Bold and grey shaded indicates exceedance outside of NMOCD Closure Criteria



Client Name: Devon Energy Production Company, LP
 Site Name: Apache 25 Federal #009
 NM OCD Tracking #: nAB1803838673
 Project #: 25A-01155
 Lab Reports: 2012615, 2101344, 855-31123-1 and

Table 4. Confirmation Sample Laboratory Results - Depth to Groundwater <50 feet bgs										
Sample Description			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile		Extractable					Chloride Concentration (mg/kg)
			Benzene (mg/kg)	BTEX (Total) (mg/kg)	Gasoline Range Organics (GRO) (mg/kg)	Diesel Range Organics (DRO) (mg/kg)	Motor Oil Range Organics (MRO) (mg/kg)	GRO + DRO (mg/kg)	Total Petroleum Hydrocarbons (TPH) (mg/kg)	
Backfill Sample										
Backfill	1	September 8, 2025	ND	ND	ND	ND	ND	ND	ND	220
Base Samples										
BS20-01	1	December 9, 2020	ND	ND	ND	96	67	96	163	150
	1.25	January 6, 2021	ND	ND	ND	23	ND	23	23	ND
BS20-02	1	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	120
BS20-03	1	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	ND
BS20-04	2	December 9, 2020	ND	ND	ND	17	ND	17	17	300
BS20-05	2	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	130
BS20-06	1	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	140
BS20-07	1	December 9, 2020	ND	ND	ND	15	ND	15	15	180
BS20-08	1	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	69
BS20-09	1	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	ND
BS20-10	1	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	ND
BS20-11	1	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	92
BS20-12	1	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	ND
BS20-13	1	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	ND
BS20-14	1	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	ND
BS20-15	1	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	ND
BS25-16	2	August 13, 2025	ND	ND	ND	67	150	67	217	410
	2.5	September 8, 2025	ND	ND	ND	34	ND	34	34	ND
BS25-17	2	August 13, 2025	ND	ND	ND	67	120	67	187	430
	2.5	September 8, 2025	ND	ND	ND	18	ND	18	18	ND
Wall Samples										
WS20-01	0-1	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	80
WS20-02	0-1	December 9, 2020	ND	ND	ND	140	98	140	238	100
	0-1	January 6, 2021	ND	ND	ND	ND	ND	ND	ND	ND
WS20-03	0-2	December 9, 2020	ND	ND	ND	24	ND	24	24	390
WS20-04	0-2	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	160
WS20-05	0-1	December 9, 2020	ND	ND	ND	11	ND	11	11	270
WS20-06	0-1	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	ND
WS20-07	0-1	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	150
WS20-08	0-1	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	70
WS20-09	0-1	December 9, 2020	ND	ND	ND	ND	ND	ND	ND	76
WS25-10	0-2	August 13, 2025	ND	ND	ND	ND	ND	ND	ND	410

"ND" Not Detected at the Reporting Limit

"-" indicates not analyzed/assessed

Bold and grey shaded indicates exceedance outside of NMOCD Remediation Closure Criteria

Strikethrough indicates the excavation depth was increased and the soil represented by the sample was removed



APPENDIX A - NMOCD C-141 Reports

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

NM OIL CONSERVATION

ARTESIA DISTRICT

Form C-141
Revised April 3, 2017

FEB 06 2018

Copy to appropriate District Office in accordance with 19.15.29 NMAC.

RECEIVED

Release Notification and Corrective Action

NAB1803838073

OPERATOR

Initial Report Final Report

Name of Company	Devon Energy Production Company <i>U137</i>	Contact	Wes Ryan, Production Foreman
Address	6488 Seven Rivers Hwy Artesia, NM 88210	Telephone No.	575-390-5436
Facility Name	Apache 25 Federal 9	Facility Type	Oil

Surface Owner	Federal	Mineral Owner	Federal	API No.	30-015-32797
---------------	---------	---------------	---------	---------	--------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	25	22S	30E					Eddy

Latitude 32.361248 Longitude 103.8309479 NAD83

NATURE OF RELEASE

Type of Release	Produced water/Oil	Volume of Release	4.56bbbls produced water/1.52bbbl oil	Volume Recovered	2bbbls produced water/1.5bbl oil
Source of Release	Poly flow line at wellhead	Date and Hour of Occurrence	January 23, 2018 @ 2:07 PM MST	Date and Hour of Discovery	January 23, 2018 @ 2:07 PM MST
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Mike Bratcher/Crystal Weaver, OCD Shelly Tucker, BLM		
By Whom?	Mike Shoemaker, EHS Representative	Date and Hour	Initial Notice January 24, 2018 @ 11:33 AM MST Corrected Notice January 25, 2018 @ 7:42 AM MST		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	N/A		

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*

The poly flow line busted at the well head causing a release of approximately 6.08 bbbls of mixed fluids. The pumping unit was immediately turned off to stop the release. A vacuum truck was dispatched to recover any standing fluids.

Describe Area Affected and Cleanup Action Taken.*

Approximately 6.08 bbbls (4.56bbbls produced water and 1.52bbbl of oil) were released and over sprayed onto the pad surface and the adjacent pasture. Approximately 3.5 bbbls was recovered via the dispatched vacuum truck. An environmental contractor will be contacted to assist with the delineation and remediation efforts.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

OIL CONSERVATION DIVISION

Signature: *Michael Shoemaker*

Printed Name: Michael Shoemaker

Title: Environmental Professional

E-mail Address: mike.shoemaker@dvn.com

Date: 2/6/18

Phone: 575.748.3371

Approved by Environmental Specialist

Mike Bratcher

Approval Date: *2/6/18*

Expiration Date: *N/A*

Conditions of Approval:

See attached

Attached

2RP-4600

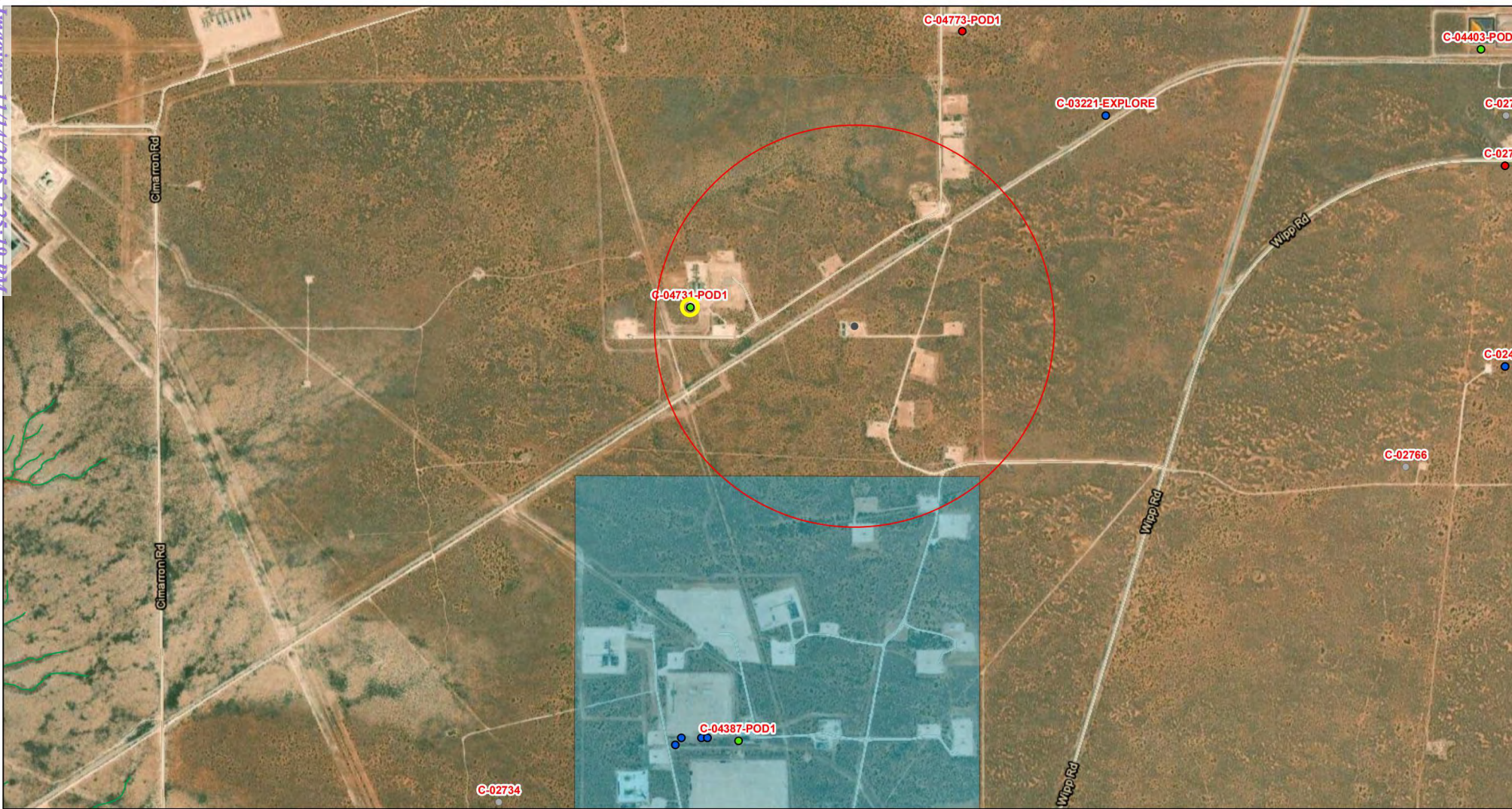
* Attach Additional Sheets If Necessary

APPENDIX B – Closure Criteria Research Documentation

Apache 25 Federal #009 OSE Map

Released to Imaging: 11/14/2025 2:25:19 PM

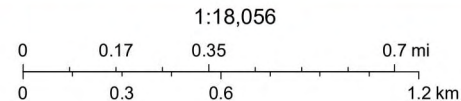
Received by OCD: 10/2/2025 12:23:31 PM



11/23/2024, 3:14:05 PM

- GIS WATERS PODs
- Plugged
 - Active
 - Pending
 - OSE District Boundary

- Water Right Regulations
- Artesian Planning Area
 - New Mexico State Trust Lands
 - Both Estates
- NHD Flowlines
- Stream River



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

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

Water Column/Average Depth to Water

POD Number	Code	Sub basin	County	Q64	Q16	Q4	Sec	Tws	Range	X	Y	Map	Distance	Well Depth	Depth Water	Water Column
C_04773 POD1		CUB	ED	SE	SE	SE	24	22S	30E	610415.0	3582262.6		1257	55		
C_03221 EXPLORE		CUB	ED	NW	NE	NW	30	22S	31E	610995.0	3581935.0 *		1319	651		
C_02637		CUB	ED	NW	SW	SW	24	22S	30E	608950.0	3582377.0 *		1663	759		
C_03561 POD4		CUB	ED	SW	NE	SW	36	22S	30E	609418.9	3579425.4		1749	25	0	25
C_03561 POD5		CUB	ED	SW	NE	SW	36	22S	30E	609418.9	3579425.4		1749	20	0	20
C_03561 POD3		CUB	ED	SW	NE	SW	36	22S	30E	609392.8	3579425.2		1758	25	0	25
C_03561 POD2		CUB	ED	SW	NE	SW	36	22S	30E	609314.3	3579424.3		1787	25	0	25
C_03561 POD1		CUB	ED	SW	NE	SW	36	22S	30E	609288.5	3579393.2		1826	30	0	30
C_02950 EXPL		CUB	ED	SE	NE	SE	23	22S	30E	608740.0	3582576.0 *		1950	845		

Average Depth to Water: **0 feet**

Minimum Depth: **0 feet**

Maximum Depth: **0 feet**

Record Count: 9

UTM Filters (in meters):

Easting: 609991

Northing: 3581079

Radius: 002000

* UTM location was derived from PLSS - see Help

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

11/23/24 2:16 PM MST


Water Column/Average Depth to Water

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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 Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
NA	C 04773 POD1	SE	SE	SE	24	22S	30E	610415.0	3582262.6	

* UTM location was derived from PLSS - see Help

Driller License:	1833	Driller Company:	VISION RESOURCES, INC		
Driller Name:	JASON MALEY				
Drill Start Date:	2023-12-15	Drill Finish Date:	2023-12-15	Plug Date:	2023-12-21
Log File Date:	2024-01-12	PCW Rcv Date:		Source:	
Pump Type:		Pipe Discharge Size:		Estimated Yield:	
Casing Size:		Depth Well:	55	Depth Water:	

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

11/23/24 2:30 PM MST

Point of Diversion Summary

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Water Right Summary



[get image list](#)

WR File Number:	C 04773	Subbasin:	CUB	Cross Reference:	
Primary Purpose:	MON MONITORING WELL				
Primary Status:	PMT Permit				
Total Acres:		Subfile:		Header:	
Total Diversion:	0.000	Cause/Case:			
Owner:	DEVON ENERGY RESOURCES				
Contact:	DALE WOODALL				

Documents on File

(acre-feet per annum)

Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion	Consumptive
get images	751177	EXPL	2023-09-19	PMT	APR	C-4773 POD1	T	0.000	0.000	

Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map	Other Location Desc
C_04773_POD1	NA		SE	SE	SE	24	22S	30E	610415.0	3582262.6		

* UTM location was derived from PLSS - see Help

Source

Acres	Diversion	CU	Use	Priority	Source	Description
0.000	0.000		MON		GW	

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11/23/24 2:32 PM MST

Water Rights Summary

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WELL RECORD & LOG Apache 24

OFFICE OF THE STATE ENGINEER
www.ose.state.nm.us

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) C-4773 POD1		WELL TAG ID NO.		OSE FILE NO(S) C04773	
	WELL OWNER NAME(S) Devon Energy Resources				PHONE (OPTIONAL)	
	WELL OWNER MAILING ADDRESS 205 E. Bender Road # 105				CITY Hobbs	STATE NM
					ZIP 88240	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE	MINUTES 32	SECONDS 22	18.7752	N
	LONGITUDE	-103	49	34.7196	W	* DATUM REQUIRED: WGS 84
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE						

2. DRILLING & CASING INFORMATION	LICENSE NO. 1833		NAME OF LICENSED DRILLER Jason Maley			NAME OF WELL DRILLING COMPANY Vision Resources		
	DRILLING STARTED 12-15-23		DRILLING ENDED 12-15-23		DEPTH OF COMPLETED WELL (FT) 55'	BORE HOLE DEPTH (FT) 55'	DEPTH WATER FIRST ENCOUNTERED (FT) Dry	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN *add <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED) <small>Centralizer info below</small>					STATIC WATER LEVEL IN COMPLETED WELL (FT) Dry	DATE STATIC MEASURED 12-18-23	
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:						CHECK HERE IF PITLESS ADAPTER IS INSTALLED <input type="checkbox"/>	
	DEPTH (feet bgl)		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)
	FROM	TO						
	0	45'	6"	2" PVC SCH40	Thread	2"	SCH40	N/A
	45'	55"	6"	2" PVC SCH40	Thread	2"	SCH40	.05

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

FOR OSE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 09/22/2022)			
FILE NO.	C-4773	POD NO.	1	TRN NO.	751177
LOCATION	22S. 30E. 24 444	WELL TAG ID NO.	N/A	PAGE 1 OF 2	



Intermittent 5,484 feet



May 15, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

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

- Lake
- Other
- Riverine

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



Pond 7,496 feet



May 15, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

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










- Lake
- Other
- Riverine

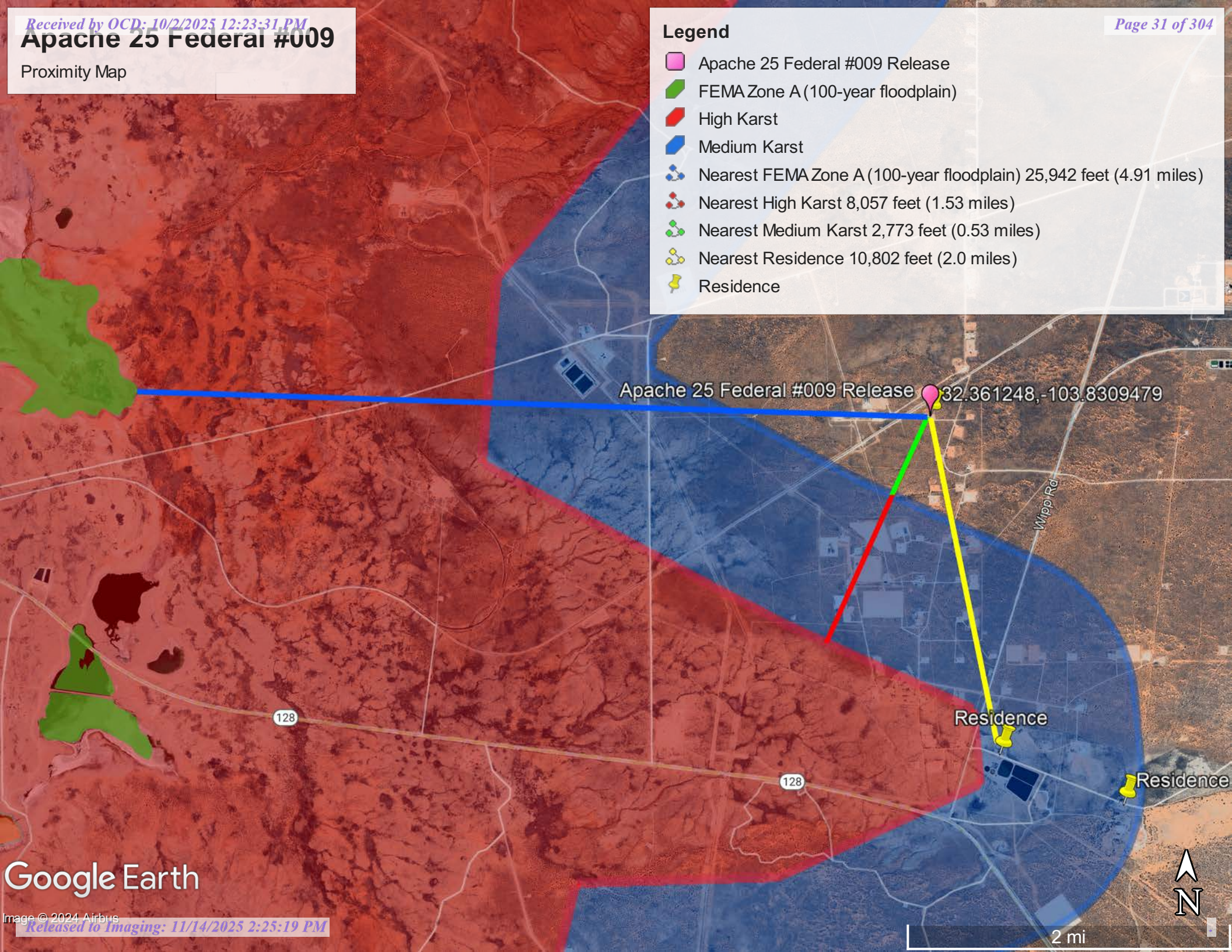
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Apache 25 Federal #009

Proximity Map

Legend

-  Apache 25 Federal #009 Release
-  FEMA Zone A (100-year floodplain)
-  High Karst
-  Medium Karst
-  Nearest FEMA Zone A (100-year floodplain) 25,942 feet (4.91 miles)
-  Nearest High Karst 8,057 feet (1.53 miles)
-  Nearest Medium Karst 2,773 feet (0.53 miles)
-  Nearest Residence 10,802 feet (2.0 miles)
-  Residence



Apache 25 Federal #009 Release 32.361248, -103.830947

Residence

Residence

Google Earth

2 mi

Active & Inactive Points of Diversion (with Ownership Information)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	(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)		(meters)	
											q64	q16	q4	Sec	Tws	Range	X	Y	Map	Distance	
C 04731	CUB	MON	0.000	XTO ENERGY, INC	ED	C 04731 POD1	NA				NW	NE	SW	25	22S	30E	609329.1	3581147.9		665.5	
C 04773	CUB	MON	0.000	DEVON ENERGY RESOURCES	ED	C 04773 POD1	NA				SE	SE	SE	24	22S	30E	610415.0	3582262.6		1,257.3	
C 03221	CUB	MON	0.000	U.S. DEPART OF ENERGY	ED	C 03221 EXPLORE				Artesian	NW	NE	NW	30	22S	31E	610995.0	3581935.0 *		1,319.4	
C 02637	CUB	MON	0.000	U.S. DEPARTMENT OF ENERGY	ED	C 02637					NW	SW	SW	24	22S	30E	608950.0	3582377.0 *		1,663.9	
C 04387	CUB	MON	0.000	XTO ENERGY INC	ED	C 04387 POD1	NA				SE	NE	SW	36	22S	30E	609542.2	3579414.5		1,723.9	
C 03561	CUB	EXP	0.000	BOPCO, LP	ED	C 03561 POD4					SW	NE	SW	36	22S	30E	609418.9	3579425.4		1,749.8	
					ED	C 03561 POD5					SW	NE	SW	36	22S	30E	609418.9	3579425.4		1,749.8	
					ED	C 03561 POD3					SW	NE	SW	36	22S	30E	609392.8	3579425.2		1,758.7	
					ED	C 03561 POD2					SW	NE	SW	36	22S	30E	609314.3	3579424.3		1,787.7	
					ED	C 03561 POD1					SW	NE	SW	36	22S	30E	609288.5	3579393.2		1,826.3	
C 02950	CUB	EXP	0.000	US DEPT OF ENERGY CARLSBAD FIELD OFFICE, WIPP	ED	C 02950 EXPL				Shallow	SE	NE	SE	23	22S	30E	608740.0	3582576.0 *		1,950.9	
C 02960	CUB	EXP	0.000	US DEPT. OF ENERGY CARLSBAD FIELD OFFICE, WIPP	ED	C 02960 EXPL					SW	SW	SW	31	22S	31E	610620.0	3578915.0 *		2,253.6	
C 02766	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02766					SW	SW	SW	29	22S	31E	612216.0	3580541.0 *		2,289.1	
C 02734	C	STK	3.000	BUREAU OF LAND MANAGEMENT	ED	C 02734					NW	SE	SE	35	22S	30E	608580.0	3579158.0 *		2,383.5	
C 02418	CUB	MON	0.000	U.S.DEPT. OF ENERGY	ED	C 02418				Artesian	SW	NE	SW	29	22S	31E	612613.0	3580948.0 *		2,625.3	
C 02419	CUB	MON	0.000	U.S.DEPT OF ENERGY	ED	C 02419				Artesian	SW	NE	SW	29	22S	31E	612613.0	3580948.0 *		2,625.3	
C 02758	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02758					SW	NE	NW	29	22S	31E	612604.0	3581752.0 *		2,698.3	
C 02762	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02762					SW	NE	NW	29	22S	31E	612604.0	3581752.0 *		2,698.3	
C 02763	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02763					SW	NE	NW	29	22S	31E	612604.0	3581752.0 *		2,698.3	
C 02677	CUB	MON	0.000	SANDIA NATIONAL LABORATORIES	ED	C 02677					NW	NE	NW	29	22S	31E	612604.0	3581952.0 *		2,755.0	
C 02759	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02759					NW	NE	NW	29	22S	31E	612604.0	3581952.0 *		2,755.0	
C 04403	CUB	MON	0.000	US DEPARTMENT OF ENERGY	ED	C 04403 POD1	NA				SW	SE	SW	20	22S	31E	612502.6	3582213.7		2,756.0	
C 04512	CUB	MON	0.000	XTO ENERGY INC	ED	C 04512 POD1	NA				NW	SE	NW	01	23S	30E	609435.1	3578369.0		2,766.4	
					ED	C 04512 POD2	NA				NW	SE	NW	01	23S	30E	609437.0	3578336.6		2,797.8	
C 03559	CUB	EXP	0.000	BOPCO, LP	ED	C 03559 POD1					SE	SW	NE	01	23S	30E	609928.3	3578260.7		2,819.0	
					ED	C 03559 POD2					SE	SW	NE	01	23S	30E	609928.3	3578260.7		2,819.0	
					ED	C 03559 POD3					SE	SW	NE	01	23S	30E	609928.3	3578260.7		2,819.0	
					ED	C 03559 POD4					SE	SW	NE	01	23S	30E	609928.3	3578260.7		2,819.0	
C 04512	CUB	MON	0.000	XTO ENERGY INC	ED	C 04512 POD3	NA				NW	SE	NW	01	33S	30E	609437.0	3578308.9		2,825.0	
C 03559	CUB	EXP	0.000	BOPCO, LP	ED	C 03559 POD5				Shallow	SE	SW	NE	01	23S	30E	609912.4	3578236.2		2,843.9	
C 04325	CUB	POL	0.000	XTO ENERGY INC	ED	C 04325 POD15	NA				SE	SE	NE	01	23S	30E	610339.4	3578237.1		2,863.2	
					ED	C 04325 POD4	NA				SE	SE	NE	01	23S	30E	610360.0	3578239.5		2,863.4	
					ED	C 04325 POD6	NA				SE	SE	NE	01	23S	30E	610360.0	3578239.5		2,863.4	
					ED	C 04325 POD1	NA				SE	SE	NE	01	23S	30E	610341.7	3578235.0		2,865.5	
					ED	C 04325 POD12	NA				SE	SE	NE	01	23S	30E	610350.6	3578235.7		2,865.9	

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	(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)		(meters)
											q64	q16	q4	Sec	Tws	Range	X	Y	Map	Distance		
					ED	C_04325_POD11	NA			SE	SE	NE	01	23S	30E	610332.6	3578232.8		2,866.6			
					ED	C_04325_POD2	NA			SE	SE	NE	01	23S	30E	610349.6	3578234.8		2,866.7			
					ED	C_04325_POD9	NA			SE	SE	NE	01	23S	30E	610339.4	3578232.8		2,867.4			
					ED	C_04325_POD10	NA			SE	SE	NE	01	23S	30E	610349.4	3578231.7		2,869.8			
					ED	C_04325_POD8	NA			SE	SE	NE	01	23S	30E	610334.0	3578228.5		2,871.1			
					ED	C_04325_POD3	NA			SE	SE	NE	01	23S	30E	610362.7	3578231.5		2,871.7			
					ED	C_04325_POD7	NA			SE	SE	NE	01	23S	30E	610345.5	3578227.4		2,873.6			
					ED	C_04325_POD13	NA			SE	SE	NE	01	23S	30E	610356.3	3578220.1		2,882.1			
					ED	C_04325_POD14	NA			SE	SE	NE	01	23S	30E	610346.7	3578215.7		2,885.3			
					ED	C_04325_POD5	NA			SE	SE	NE	01	23S	30E	610375.9	3578216.3		2,888.5			
					ED	C_04325_POD16	NA			SE	SE	NE	01	23S	30E	610347.3	3578206.7		2,894.3			
C_04402	CUB	MON	0.000	US DEPARTMENT OF ENERGY	ED	C_04402_POD1	NA			NW	SW	NE	29	22S	31E	612911.0	3581565.9		2,960.3			
						C_04402_POD2	NA			NW	SW	NE	29	22S	31E	612911.0	3581565.9		2,960.3			
C_02683	CUB	MON	0.000	SANDIA NATIONAL LABORATORIES	ED	C_02683				SW	NW	NW	20	22S	31E	612184.0	3583356.0 *		3,161.3			
C_02638	CUB		0.000	U.S. DEPT. OF INTERIOR - BLM	ED	C_02638				SE	SW	SW	35	22S	30E	607558.0	3578948.0 *		3,234.3			
C_03976	CUB	MON	0.000	US DEPARTMENT OF ENERGY	ED	C_03976_POD1				NW	SW	SE	20	22S	31E	612967.4	3582387.3		3,251.2			
						C_03976_POD2				NW	SW	SE	20	22S	31E	612967.4	3582387.3		3,251.2			
						C_03976_POD3				NW	SW	SE	20	22S	31E	612967.4	3582387.3		3,251.2			
						C_03976_POD4				NW	SW	SE	20	22S	31E	612967.7	3582386.7		3,251.3			
C_03977	CUB	EXP	0.000	US DEPARTMENT OF ENERGY	ED	C_03977_POD1				NW	SW	SE	20	22S	31E	612967.7	3582386.7		3,251.3			
C_02725	CUB	MON	0.000	U.S. DEPT. OF ENERGY, WIPP	ED	C_02725				NW	NW	NW	05	23S	31E	612240.0	3578731.0 *		3,251.3			
C_02775	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C_02775				NW	NW	NW	05	23S	31E	612240.0	3578731.0 *		3,251.3			
C_03139	CUB	MON	0.000	US DEPT OF ENERGY	ED	C_03139				SE	NE	SE	01	23S	30E	610424.0	3577764.0 *		3,343.2			
C_02776	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C_02776				NE	NW	NW	05	23S	31E	612440.0	3578731.0 *		3,392.7			
C_02662	CUB	MON	0.000	WIPP U.S. DEPARTMENT OF ENERGY	ED	C_02662				NW	NE	NE	29	22S	31E	613409.0	3581960.0 *		3,529.7			
C_02765	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C_02765				NW	NE	NE	29	22S	31E	613409.0	3581960.0 *		3,529.7			
C_02989	CUB	MON	0.000	U.S. DEPT. OF ENERGY	ED	C_02989				SW	SE	SE	20	22S	31E	613404.0	3582162.0 *		3,580.7			
C_02413	CUB	MON	0.000	U.S. DEPT. OF ENERGY	ED	C_02413			Artesian	NW	NE	NW	20	22S	31E	612586.0	3583560.0 *		3,590.2			
C_02760	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C_02760				NE	NE	SE	29	22S	31E	613618.0	3581156.0 *		3,627.8			
C_02761	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C_02761				NE	NE	SE	29	22S	31E	613618.0	3581156.0 *		3,627.8			
C_02764	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C_02764				NE	NE	SE	29	22S	31E	613618.0	3581156.0 *		3,627.8			
C_03207	CUB	MON	0.000	U.S. DEPT. OF ENERGY	ED	C_03207			Shallow	SE	NE	SE	29	22S	31E	613618.0	3580956.0 *		3,629.1			
C_02753	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C_02753				NW	SE	SE	20	22S	31E	613404.0	3582362.0 *		3,646.2			
C_02986	CUB	MON	0.000	U.S. DEPT. OF ENERGY	ED	C_02986				NW	SE	SE	20	22S	31E	613404.0	3582362.0 *		3,646.2			
C_02990	CUB	MON	0.000	U.S. DEPT OF ENERGY	ED	C_02990				NW	SE	SE	20	22S	31E	613404.0	3582362.0 *		3,646.2			
C_02737	C	PRO	0.000	US DEPARTMENT OF ENERGY WASTE ISOLATION PILOT PLANT	ED	C_02737			Shallow	NE	SE	NE	29	22S	31E	613604.5	3581567.9		3,646.4			
C_02811	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C_02811				NE	SE	NE	29	22S	31E	613613.0	3581558.0 *		3,653.5			

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	(R=POD has been replaced and no longer serves this file, C=the file is closed)			Source	(quarters are 1=NW 2=NE 3=SW 4=SE)					(NAD83 UTM in meters)		Map	Distance		
							Well Tag	Code	Grant		q64	q16	q4	Sec	Tws	Range	X			Y	
C 02761	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02761 POD1				NE	NE	SE	29	22S	31E	613651.0	3581101.5		3,660.1		
C 02417	CUB	MON	0.000	U.S. DEPT. OF ENERGY	ED	C 02417				Artesian	SE	SE	SE	29	22S	31E	613623.0	3580554.0 *		3,669.7	
C 02505	CUB	MON	0.000	U.S. DEPT. OF ENERGY	ED	C 02505				Shallow	SE	SE	SE	20	22S	31E	613604.0	3582162.0 *		3,771.8	
C 02506	CUB	MON	0.000	(WIPP) U.S. DEPT. OF ENERGY	ED	C 02506				Shallow	SE	SE	SE	20	22S	31E	613604.0	3582162.0 *		3,771.8	
C 02507	CUB	MON	0.000	(WIPP) U.S. DEPT. OF ENERGY	ED	C 02507				Shallow	SE	SE	SE	20	22S	31E	613604.0	3582162.0 *		3,771.8	
C 02527	CUB	EXP	0.000	U.S. D.O.E. (WIPP)	ED	C 02527					SE	SE	SE	20	22S	31E	613604.0	3582162.0 *		3,771.8	
C 02528	CUB	EXP	0.000	U. S. D. O. E. (WIPP)	ED	C 02528					SE	SE	SE	20	22S	31E	613604.0	3582162.0 *		3,771.8	
C 02752	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02752					SE	SE	SE	20	22S	31E	613604.0	3582162.0 *		3,771.8	
C 02801	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02801					SE	SE	SE	20	22S	31E	613604.0	3582162.0 *		3,771.8	
C 02802	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02802					SE	SE	SE	20	22S	31E	613604.0	3582162.0 *		3,771.8	
C 02803	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02803					SE	SE	SE	20	22S	31E	613604.0	3582162.0 *		3,771.8	
C 02981	CUB	MON	0.000	U.S. DEPT. OF ENERGY	ED	C 02981					SE	SE	SE	20	22S	31E	613604.0	3582162.0 *		3,771.8	
C 02983	CUB	MON	0.000	U.S. DEPT. OF ENERGY	ED	C 02983					SE	SE	SE	20	22S	31E	613604.0	3582162.0 *		3,771.8	
C 02987	CUB	MON	0.000	U.S. DEPT. OF ENERGY	ED	C 02987					SE	SE	SE	20	22S	31E	613604.0	3582162.0 *		3,771.8	
C 02991	CUB	MON	0.000	U.S. DEPT. OF ENERGY	ED	C 02991					SE	SE	SE	20	22S	31E	613604.0	3582162.0 *		3,771.8	
C 02980	CUB	MON	0.000	U.S. DEPT. OF ENERGY	ED	C 02980					NE	SE	SE	20	22S	31E	613604.0	3582362.0 *		3,834.0	
C 02982	CUB	MON	0.000	U.S. DEPT. OF ENERGY	ED	C 02982					NE	SE	SE	20	22S	31E	613604.0	3582362.0 *		3,834.0	
C 02984	CUB	MON	0.000	U.S. DEPT. OF ENERGY	ED	C 02984					NE	SE	SE	20	22S	31E	613604.0	3582362.0 *		3,834.0	
C 02985	CUB	MON	0.000	U.S. DEPT. OF ENERGY	ED	C 02985					NE	SE	SE	20	22S	31E	613604.0	3582362.0 *		3,834.0	
C 02988	CUB	MON	0.000	U.S. DEPT. OF ENERGY	ED	C 02988					NE	SE	SE	20	22S	31E	613604.0	3582362.0 *		3,834.0	
C 02754	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02754					SE	NE	SE	20	22S	31E	613599.0	3582564.0 *		3,901.7	
C 04399	CUB	MON	0.000	US DEPARTMENT OF ENERGY	ED	C 04399 POD1	NA				NE	NW	NW	28	22S	31E	613937.1	3581991.7		4,050.3	
C 02755	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02755					SE	SE	NE	20	22S	31E	613595.0	3582966.0 *		4,068.1	
C 04200	CUB	EXP	0.000	JIMMY MILLS GST TRUST	ED	C 04200 POD4	NA					SE	SE	06	23S	31E	611996.2	3577521.8		4,083.4	
C 03015	CUB	MON	0.000	U.S. DEPT OF ENERGY - WIPP	ED	C 03015					Artesian	NW	SE	SW	22	22S	30E	606099.0	3582353.0 *		4,095.2
C 02678	CUB	MON	0.000	SANDIA NATIONAL LABORATORIES	ED	C 02678					NW	NW	NW	18	22S	31E	610556.0	3585146.0 *		4,106.1	
C 02749	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02749					NW	NW	NW	18	22S	31E	610556.0	3585146.0 *		4,106.1	
C 02750	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02750					NW	NW	NW	18	22S	31E	610556.0	3585146.0 *		4,106.1	
C 02751	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02751					NW	NW	NW	18	22S	31E	610556.0	3585146.0 *		4,106.1	
C 02748	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02748					NW	NE	SW	17	22S	31E	612576.0	3584364.0 *		4,180.1	
C 03520	C	STK	0.000	SLASH 46, INC.	ED	C 03520 POD1					SW	NW	NW	07	23S	31E	610732.6	3576905.8		4,238.6	
C 02664	CUB	MON	0.000	SANDIA NATIONAL LABORATORIES	ED	C 02664					Shallow	SW	SW	NE	05	23S	31E	613049.0	3578138.0 *		4,242.7
C 02684	CUB	MON	0.000	SANDIA NATIONAL LABORATORIES	ED	C 02684						SE	NE	NE	20	22S	31E	613590.0	3583368.0 *		4,265.2
C 04200	CUB	EXP	0.000	JIMMY MILLS GST TRUST	ED	C 04200 POD5	NA						SE	SE	06	23S	31E	612138.8	3577393.1		4,266.0
C 02492	CUB	COM	105.000	THE JIMMY MILLS GST TRUST	ED	C 02492					Shallow	SE	SE	SE	06	23S	31E	612056.0	3577320.0 *		4,288.9
C 02865	CUB	EXP	0.000	STACY MILLS	ED	C 02865						SE	SE	SE	06	23S	31E	612056.0	3577320.0 *		4,288.9

WR File Nbr	Sub basin	Use	Diversions	Owner	County	POD Number	Well Tag	Code	Grant	Source	(quarters are 1=NE 2=SE 3=SW 4=NE)					(NAD83 UTM in meters)		Map	Distance	
											q64	q16	q4	Sec	Tws	Range	X			Y
C 04200	CUB	EXP	0.000	JIMMY MILLS GST TRUST	ED	C 04200 POD2	NA				NE	NE	07	23S	31E	611893.1	3577123.1		4,389.4	
					ED	C 04200 POD1	NA				NE	NE	07	23S	31E	611802.8	3577058.6		4,409.8	
C 02420	CUB	EXP	0.000	U. S. DEPT. OF ENERGY	ED	C 02420				Artesian	SE	NE	SW	28	22S	31E	614423.0	3580964.0 *		4,433.5
C 02421	CUB	EXP	0.000	U. S. DEPT. OF ENERGY	ED	C 02421				Artesian	SE	NE	SW	28	22S	31E	614423.0	3580964.0 *		4,433.5
C 02422	CUB	EXP	0.000	U. S. DEPT. OF ENERGY	ED	C 02422				Artesian	SE	NE	SW	28	22S	31E	614423.0	3580964.0 *		4,433.5
C 02423	CUB	EXP	0.000	U. S. DEPT. OF ENERGY	ED	C 02423				Artesian	SE	NE	SW	28	22S	31E	614423.0	3580964.0 *		4,433.5
C 02424	CUB	EXP	0.000	U. S. DEPT. OF ENERGY	ED	C 02424				Artesian	SE	NE	SW	28	22S	31E	614423.0	3580964.0 *		4,433.5
C 02425	CUB	EXP	0.000	U. S. DEPT. OF ENERGY	ED	C 02425				Artesian	SE	NE	SW	28	22S	31E	614423.0	3580964.0 *		4,433.5
C 02426	CUB	EXP	0.000	U. S. DEPT. OF ENERGY	ED	C 02426				Artesian	SE	NE	SW	28	22S	31E	614423.0	3580964.0 *		4,433.5
C 03668	C	STK	3.000	J T MILLS 2005 GST TRUST	ED	C 04292 POD2				Shallow	SW	NE	NE	07	23S	31E	611767.4	3576996.6		4,452.1
C 04200	CUB	EXP	0.000	JIMMY MILLS GST TRUST	ED	C 04200 POD3	NA				NE	NE	07	23S	31E	612130.3	3577147.3		4,476.0	
C 02639	CUB	MON	0.000	U.S. DEPARTMENT OF ENERGY	ED	C 02639					SE	SE	SE	17	22S	31E	613585.0	3583770.0 *		4,489.8
C 04772	CUB	MON	0.000	DEVON ENERGY RESOURCES	ED	C 04772 POD1	NA				NW	NW	NW	04	23S	31E	613895.0	3578780.5		4,530.4
C 04406	CUB	MON	0.000	US DEPARTMENT OF ENERGY	ED	C 04406 POD1	NA				NE	SE	SW	28	22S	31E	614517.6	3580823.4		4,533.8
					ED	C 04406 POD2	NA				NE	SE	SW	28	22S	31E	614517.6	3580823.4		4,533.8
C 02111	CUB	MIN	47.000	WESTERN AG-MINERALS CO.	ED	C 02111				Shallow	NE	NE	NE	33	22S	30E	605505.0	3580336.0 *		4,547.1
C 04528	CUB	MON	0.000	XTO ENERGY INC	ED	C 04528 POD1	NA				NW	SW	SW	12	22S	30E	608866.4	3585625.1		4,678.4
C 03222	CUB	MON	0.000	U.S. DEPART OF ENERGY	ED	C 03222 EXPLORE				Shallow	NW	NW	SE	12	23S	30E	609833.0	3576349.0 *		4,732.6
C 02414	CUB	MON	0.000	U.S. DEPT. OF ENERGY	ED	C 02414				Artesian	SW	NW	SW	16	22S	31E	613782.0	3584176.0 *		4,895.2
C 02723	CUB	MON	0.000	U.S. DEPT. OF ENERGY, WIPP	ED	C 02723				Shallow	NE	NE	SW	15	22S	30E	606282.0	3584363.0 *		4,953.9

Record Count: 128

Filters Applied:

UTM Filters (in meters):

Eastings: 609991

Northings: 3581079

Radius: 005000

Sorted By: Distance

* UTM location was derived from PLSS - see Help

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Active & Inactive Points of Diversion

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Water Right Summary



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WR File Number:	C 02734	Subbasin:	C	Cross Reference:	
Primary Purpose:	STK 72-12-1 LIVESTOCK WATERING				
Primary Status:	PMT Permit				
Total Acres:		Subfile:		Header:	
Total Diversion:	3.000	Cause/Case:			
Owner:	BUREAU OF LAND MANAGEMENT				
Contact:	SUSAN BRITT				
Owner:	THE JIMMY MILLS GST TRUST				
Contact:	STACY MILLS				
Owner:	THE JIMMY MILLS 2005 GST TRUST				
Contact:	STACY MILLS				

Documents on File

(acre-feet per annum)

Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion	Consumptive
get images	466432	COWNF	2009-02-02	CHG	PRC	C 02734	T		3.000	
get images	466431	72121	2000-09-18	PMT	APR	C 02734	T		3.000	

Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map	Other Location Desc
C 02734			NW	SE	SE	35	22S	30E	608580.0	3579158.0 *		

* UTM location was derived from PLSS - see Help

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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 Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
C 03221 EXPLORE		NW	NE	NW	30	22S	31E	610995.0	3581935.0 *	

* UTM location was derived from PLSS - see Help

Driller License:	1184	Driller Company:	WEST TEXAS WATER WELL SERVICE		
Driller Name:	KEITH, LARRY				
Drill Start Date:	2006-05-30	Drill Finish Date:	2006-06-16	Plug Date:	
Log File Date:	2006-06-30	PCW Rcv Date:		Source:	Artesian
Pump Type:		Pipe Discharge Size:		Estimated Yield:	
Casing Size:	12.75	Depth Well:	651	Depth Water:	

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Point of Diversion Summary

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Water Right Summary



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WR File Number:	C 03221	Subbasin:	CUB	Cross Reference:	
Primary Purpose:	MON MONITORING WELL				
Primary Status:	PMT Permit				
Total Acres:		Subfile:		Header:	
Total Diversion:	0.000	Cause/Case:			
Owner:	U.S. DEPART OF ENERGY				
Contact:	HAROLD JOHNSON				

Documents on File

(acre-feet per annum)

Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion	Consumptive
	337501	EXPL	2005-07-26	PMT	LOG	C 03221 MONITORING WELL	T	0.000	0.000	

Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map	Other Location Desc
C 03221 EXPLORE		Artesian	NW	NE	NW	30	22S	31E	610995.0	3581935.0 *		

* UTM location was derived from PLSS - see Help

Source

Acres	Diversion	CU	Use	Priority	Source	Description
0.000	0.000		MON		GW	

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Wetland 10,937 feet



May 15, 2023

Wetlands

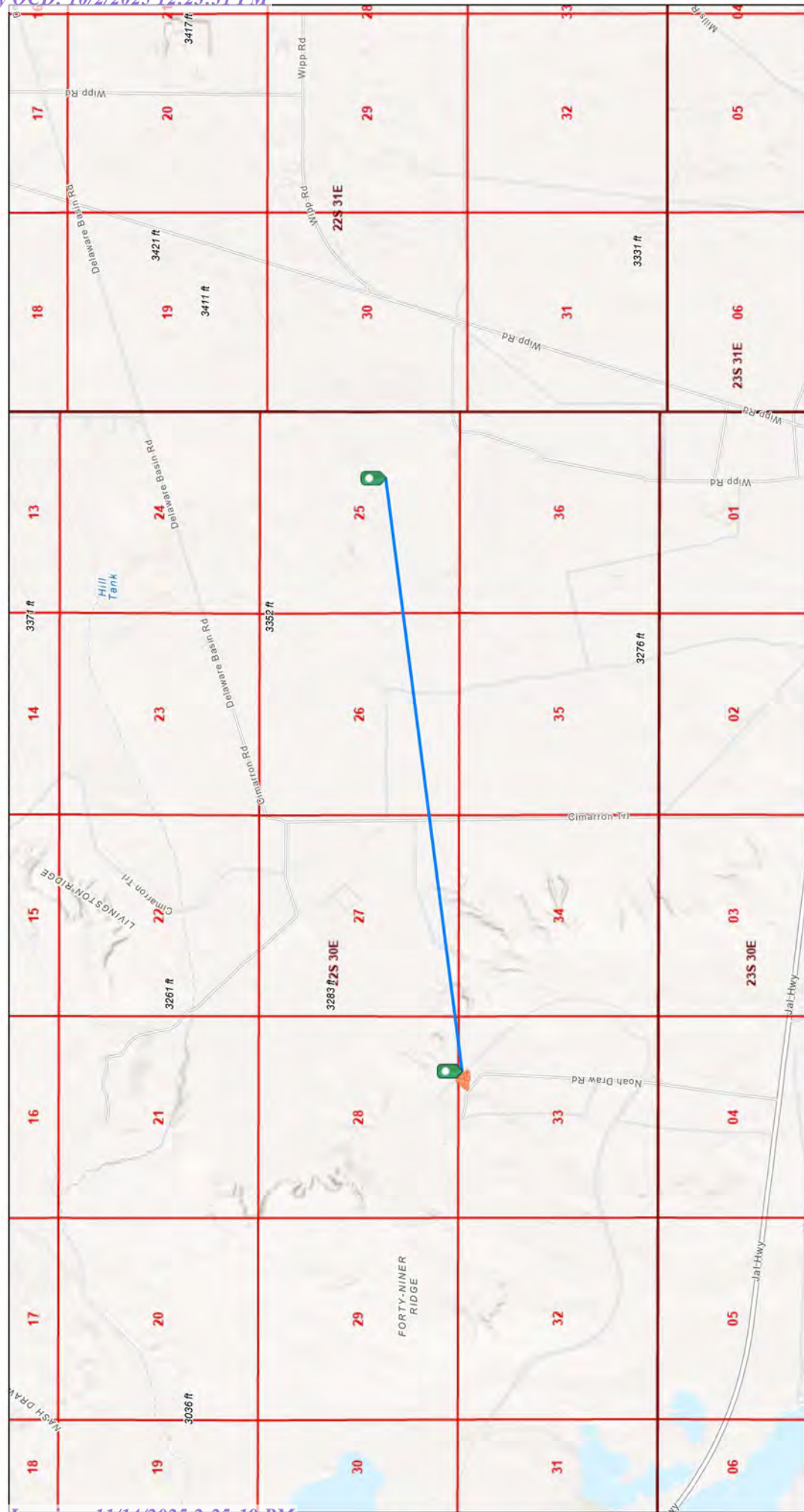
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

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

- Lake
- Other
- Riverine

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

Nearest Mine 15,888 feet



11/23/2024, 1:59:43 PM

Registered Mines

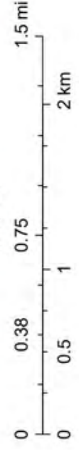
* Aggregate, Stone etc.

Potash

PLSS First Division

PLSS Townships

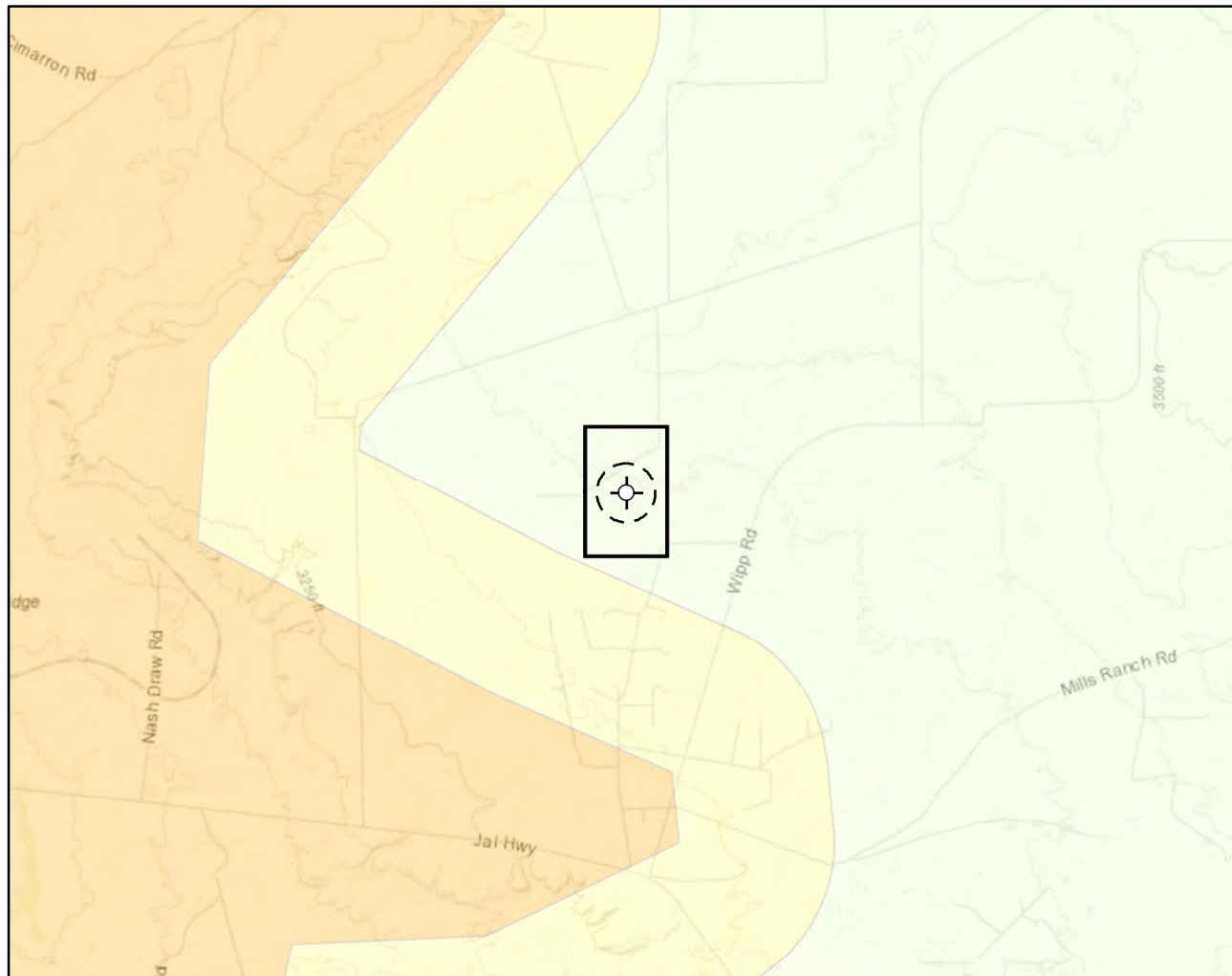
1:36,112



Esri, NASA, NGA, USGS, FEMA, Texas Parks & Wildlife,
 CONANP, Esri, TomTom, Garmin, SafeGraph,
 GeoTechnologies, Inc, METINASA, USGS, EPA, NPS,
 US Census Bureau, USDA, USFWS, BLM

NM Energy, Minerals and Natural Resources Department (<http://nm-emmd.maps.arcgis.com/apps/webappviewer/index.html?id=1b5e579794664d689b47790897ca2795>)
 EMINRD MMD GIS Coordinator

Document Path: G:\1-Projects\US PROJECTS\Devon Energy Corporation\20E-00141055-Apache 25 Fed 9\Fig X Karst Potential Apache 25 Fed 9.mxd



Karst Potential

- Critical
- High
- Medium
- Low

- Site
- Site Buffer (1000 ft.)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft.



Map Center:
Lat/Long: 32.361248, -103.830948

NAD 1983 UTM Zone 13N
Date: Jul 03/20



**Karst Potential
Apache 25 Fed 9**

FIGURE:

X



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 20XX; Overview Map: ESRI World Topographic

VERSATILITY. EXPERTISE.

National Flood Hazard Layer FIRMMette



103°50'10"W 32°21'56"N



Legend

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

- SPECIAL FLOOD HAZARD AREAS**
 - Without Base Flood Elevation (BFE) Zone A, V, A99
 - With BFE or Depth Zone AE, AO, AH, VE, AR
 - Regulatory Floodway
 - OTHER AREAS OF FLOOD HAZARD**
 - 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
 - Future Conditions 1% Annual Chance Flood Hazard Zone X
 - Area with Reduced Flood Risk due to Levee. See Notes. Zone X
 - Area with Flood Risk due to Levee Zone D
 - OTHER AREAS**
 - NO SCREEN Area of Minimal Flood Hazard Zone X
 - Effective LOMRs
 - Area of Undetermined Flood Hazard Zone D
 - GENERAL STRUCTURES**
 - Channel, Culvert, or Storm Sewer
 - Levee, Dike, or Floodwall
 - OTHER FEATURES**
 - Cross Sections with 1% Annual Chance Water Surface Elevation
 - Coastal Transect
 - Base Flood Elevation Line (BFE)
 - Limit of Study
 - Jurisdiction Boundary
 - Coastal Transect Baseline
 - Profile Baseline
 - Hydrographic Feature
 - MAP PANELS**
 - Digital Data Available
 - No Digital Data Available
 - Unmapped
- The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



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 Eddy Area, New Mexico

Apache 25 Federal 9

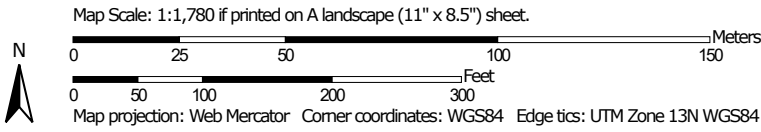


April 19, 2021

Custom Soil Resource Report Soil Map




Soil Map may not be valid at this scale.




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: Eddy Area, New Mexico
 Survey Area Data: Version 16, Jun 8, 2020

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

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

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

Custom Soil Resource Report

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BB	Berino complex, 0 to 3 percent slopes, eroded	16.0	100.0%
Totals for Area of Interest		16.0	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.

Custom Soil Resource Report

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.

Custom Soil Resource Report

Eddy Area, New Mexico**BB—Berino complex, 0 to 3 percent slopes, eroded****Map Unit Setting**

National map unit symbol: 1w43
Elevation: 2,000 to 5,700 feet
Mean annual precipitation: 5 to 15 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Berino and similar soils: 60 percent
Pajarito and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Berino**Setting**

Landform: Fan piedmonts, plains
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 17 inches: fine sand
H2 - 17 to 58 inches: sandy clay loam
H3 - 58 to 60 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
 (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Custom Soil Resource Report

Description of Pajarito**Setting**

Landform: Interdunes, plains, dunes
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 9 inches: loamy fine sand
H2 - 9 to 72 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Minor Components**Cacique**

Percent of map unit: 4 percent
Ecological site: R042XC004NM - Sandy
Hydric soil rating: No

Pajarito

Percent of map unit: 4 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Wink

Percent of map unit: 4 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Kermit

Percent of map unit: 3 percent
Ecological site: R042XC005NM - Deep Sand
Hydric soil rating: No

Ecological site R070BD003NM Loamy Sand

Accessed: 05/15/2023

General information

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

Figure 1. Mapped extent

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

Associated sites

R070BD004NM	Sandy Sandy
R070BD005NM	Deep Sand Deep Sand

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site is on uplands, plains, dunes, fan piedmonts and in inter dunal areas. The parent material consists of mixed alluvium and or eolian sands derived from sedimentary rock. Slope range on this site range from 0 to 9 percent with the average of 5 percent.

Low stabilized dunes may occur occasionally on this site. Elevations range from 2,800 to 5,000 feet.

Table 2. Representative physiographic features

Landforms	(1) Fan piedmont (2) Alluvial fan (3) Dune
Elevation	2,800–5,000 ft
Slope	0–9%
Aspect	Aspect is not a significant factor

Climatic features

The average annual precipitation ranges from 8 to 13 inches. Variations of 5 inches, more or less, are common. Over 80 percent of the precipitation falls from April through October. Most of the summer precipitation comes in the form of high intensity-short duration thunderstorms.

Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes.

The average annual temperature is 61 degrees with extremes of 25 degrees below zero in the winter to 112 degrees in the summer.

The average frost-free season is 207 to 220 days. The last killing frost being late March or early April and the first killing frost being in later October or early November.

Temperature and rainfall both favor warm season perennial plant growth. In years of abundant spring moisture, annual forbs and cool season grasses can make up an important component of this site. Strong winds blow from the southwest from January through June, which accelerates soil drying during a critical period for cool season plant growth.

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

Table 3. Representative climatic features

Frost-free period (average)	221 days
Freeze-free period (average)	240 days
Precipitation total (average)	13 in

Influencing water features

This site is not influenced from water from wetlands or streams.

Soil features

Soils are moderately deep or very deep. Surface textures are loamy fine sand, fine sandy loam, loamy very fine sand or gravelly sandy loam.

Subsurface is a loamy fine sand, coarse sandy loam, fine sandy loam or loam that averages less than 18 percent clay and less than 15 percent carbonates.

Substratum is a fine sandy loam or gravelly fine sandy loam with less than 15 percent gravel and with less than 40 percent calcium carbonate. Some layers high in lime or with caliche fragments may occur at depths of 20 to 30 inches.

These soils, if unprotected by plant cover and organic residue, become wind blown and low hummocks are formed.

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

Characteristic soils are:

- Maljamar
- Berino
- Parjarito
- Palomas
- Wink
- Pyote

Table 4. Representative soil features

Surface texture	(1) Fine sand (2) Fine sandy loam (3) Loamy fine sand
Family particle size	(1) Sandy
Drainage class	Well drained to somewhat excessively drained
Permeability class	Moderate to moderately rapid

Soil depth	40–72 in
Surface fragment cover <=3"	0–10%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	5–7 in
Calcium carbonate equivalent (0-40in)	3–40%
Electrical conductivity (0-40in)	2–4 mmhos/cm
Sodium adsorption ratio (0-40in)	0–2
Soil reaction (1:1 water) (0-40in)	6.6–8.4
Subsurface fragment volume <=3" (Depth not specified)	4–12%
Subsurface fragment volume >3" (Depth not specified)	0%

Ecological dynamics

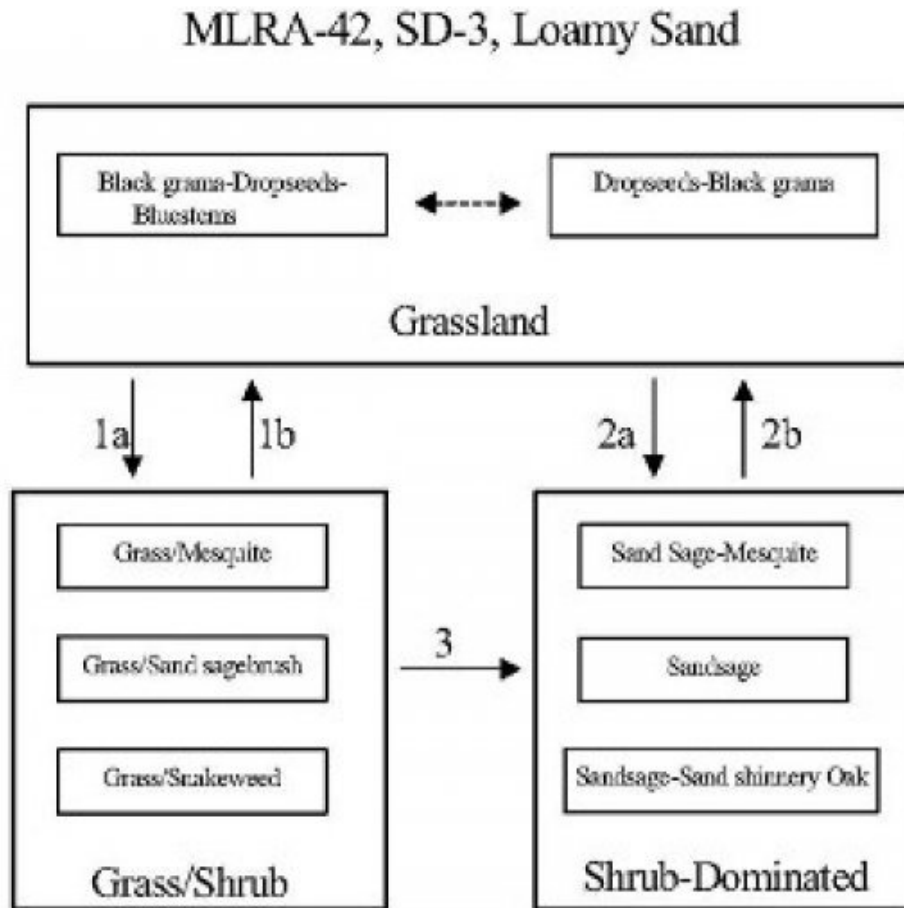
Overview

The Loamy Sand site intergrades with the Deep Sand and Sandy sites (SD-3). These sites can be differentiated by surface soil texture and depth to a textural change. Loamy Sand and Deep Sand sites have coarse textured (sands and loamy sand) surface soils while Sandy sites have moderately coarse textured (sandy loam and fine sandy loam) surfaces. Although Loamy Sand and Deep Sand sites have similar surface textures, the depth to a textural change is different—Loamy Sand sub-surface textures typically increase in clay at approximately 20 to 30 inches, and Deep Sand sites not until around 40 inches.

The historic plant community of Loamy Sand sites is dominated by black grama (*Bouteloua eriopoda*), dropseeds (*Sporobolus flexuosus*, *S. contractus*, *S. cryptandrus*), and bluestems (*Schizachyrium scoparium* and *Andropogon hallii*), with scattered shinnery oak (*Quercus havardii*) and sand sage (*Artemisia filifolia*). Perennial and annual forb abundance and distribution are dependent on precipitation. Litter and to a lesser extent, bare ground, are a significant proportion of ground cover while grasses compose the remainder. Decreases in black grama indicate a transition to either a grass/shrub or shrub-dominated state. The grass/shrub state is composed of grasses/honey mesquite (*Prosopis glandulosa*), grasses/broom snakeweed (*Gutierrezia sarothrae*), or grasses/sand sage. The shrub-dominated state occurs after a severe loss of grass cover and a prevalence of sand sage with secondary shinnery oak and mesquite. Heavy grazing intensity and/or drought are influential drivers in decreasing black grama and bluestems and subsequently increasing shrub cover, erosion, and bare patches. Historical fire suppression also encourages shrub pervasiveness and a competitive advantage over grass species (McPherson 1995). Brush and grazing management, however, may reverse grass/shrub and shrub-dominated states toward the grassland-dominated historic plant community.

State and transition model

Plant Communities and Transitional Pathways (diagram):



- 1a. Drought, over grazing, fire suppression.
- 1b. Brush control, prescribed grazing

- 2.a Severe loss of grass cover, fire suppression, erosion.
- 2b. Brush control, seeding, prescribed grazing.

- 3. Continued loss of grass cover, erosion.

**State 1
Historic Climax Plant Community**

**Community 1.1
Historic Climax Plant Community**

Grassland: The historic plant community is a uniformly distributed grassland dominated by black grama, dropseeds, and bluestems. Sand sage and shinnery oak are evenly dispersed throughout the grassland due to the coarse soil

surface texture. Perennial and annual forbs are common but their abundance and distribution are reflective of precipitation. Bluestems initially, followed by black grama, decrease with drought and heavy grazing intensity. Historical fire frequency is unknown but likely occurred enough to remove small shrubs to the competitive advantage of grass species. Fire suppression, drought conditions, and excessive grazing drive most grass species out of competition with shrub species. Diagnosis: Grassland dominated by black grama, dropseeds, and bluestems. Shrubs, such as sand sage, shinnery oak, and mesquite are dispersed throughout the grassland. Forbs are present and populations fluctuate with precipitation variability.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	442	833	1224
Forb	110	208	306
Shrub/Vine	98	184	270
Total	650	1225	1800

Table 6. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	0%
Grass/grasslike foliar cover	28%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	50%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	22%

Figure 5. Plant community growth curve (percent production by month). NM2803, R042XC003NM-Loamy Sand-HCPC. SD-3 Loamy Sand - Warm season plant community .

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

**State 2
Grass/Shrub**

**Community 2.1
Grass/Shrub**



Grass/Shrub State: The grass/shrub state is dominated by communities of grasses/mesquite, grasses/snakeweed, or grasses/sand sage. Decreases in black grama and bluestem species lead to an increase in bare patches and mesquite which further competes with grass species. An increase of dropseeds and threeawns occurs. Grass distribution becomes more patchy with an absence or severe decrease in black grama and bluestems. Mesquite provides nitrogen and soil organic matter to co-dominant grasses (Ansley and Jacoby 1998, Ansley et al. 1998). Mesquite mortality when exposed to fire is low due to aggressive resprouting abilities. Herbicide application combined with subsequent prescribed fire may be more effective in mesquite reduction (Britton and Wright 1971). **Diagnosis:** This state is dominated by an increased abundance of communities including grass/mesquite, grass/snakeweed, or grass/sand sage. Dropseeds and threeawns have a patchy distribution. **Transition to Grass/Shrub State (1a):** The historic plant community begins to shift toward the grass/shrub state as drivers such as drought, fire suppression, interspecific competition, and excessive grazing contribute to alterations in soil properties and herbaceous cover. Cover loss and surface soil erosion are initial indicators of transition followed by a decrease in black grama with a subsequent increase of dropseeds, threeawns, mesquite, and snakeweed. Snakeweed has been documented to outcompete black grama especially under conditions of fire suppression and drought (McDaniel et al. 1984). **Key indicators of approach to transition:** • Loss of black grama cover • Surface soil erosion • Bare patch expansion • Increased dropseed/threeawn and mesquite, snakeweed, or sand sage abundances **Transition to Historic Plant Community (1b):** Brush and grazing management may restore the grassland component and reverse shrub or grass/shrub dominated states back toward the historic plant community.

State 3 Shrub Dominated

Community 3.1 Shrub Dominated

Shrub-Dominated State: The shrub-dominated state results from a severe loss of grass cover. This state's primary species is sand sage. Shinnery oak and mesquite also occur; however, grass cover is limited to intershrub distribution. Sand sage stabilizes light sandy soils from wind erosion, which enhances protected grass/forb cover (Davis and Bonham 1979). However, shinnery oak also responds to the sandy soils with dense stands due to an

aggressive rhizome system. Shinnery oak’s extensive root system promotes competitive exclusion of grasses and forbs. Sand sage, shinnery oak, and mesquite can be controlled with herbicide (Herbel et al. 1979, Pettit 1986). Transition to Shrub-Dominated (2a): Severe loss of grass species with increased erosion and fire suppression will result in a transition to a shrub-dominated state with sand sage, Shin oak, and honey mesquite directly from the grassland-dominated state. Key indicators of approach to transition: • Severe loss of grass species cover • Surface soil erosion • Bare patch expansion • Increased sand sage, shinnery oak, and mesquite abundance Transition to Historic Plant Community (2b): Brush and grazing management may restore the grassland component and reverse shrub or grass/shrub dominated states back toward the historic plant community. In addition, seeding with native grass species will augment the transition to a grassland-dominated state. Transition to Shrub-Dominated (3): If the grass/shrub site continues to lose grass cover with soil erosion, the site will transition to a shrub-dominated state with sand sage, shinnery oak, and honey mesquite. Key indicators of approach to transition: • Continual loss of dropseeds/threawns cover • Surface soil erosion • Bare patch expansion • Increased sand sage, shinnery oak, and mesquite/dropseed/threawn and mesquite/snakeweed abundance

Additional community tables

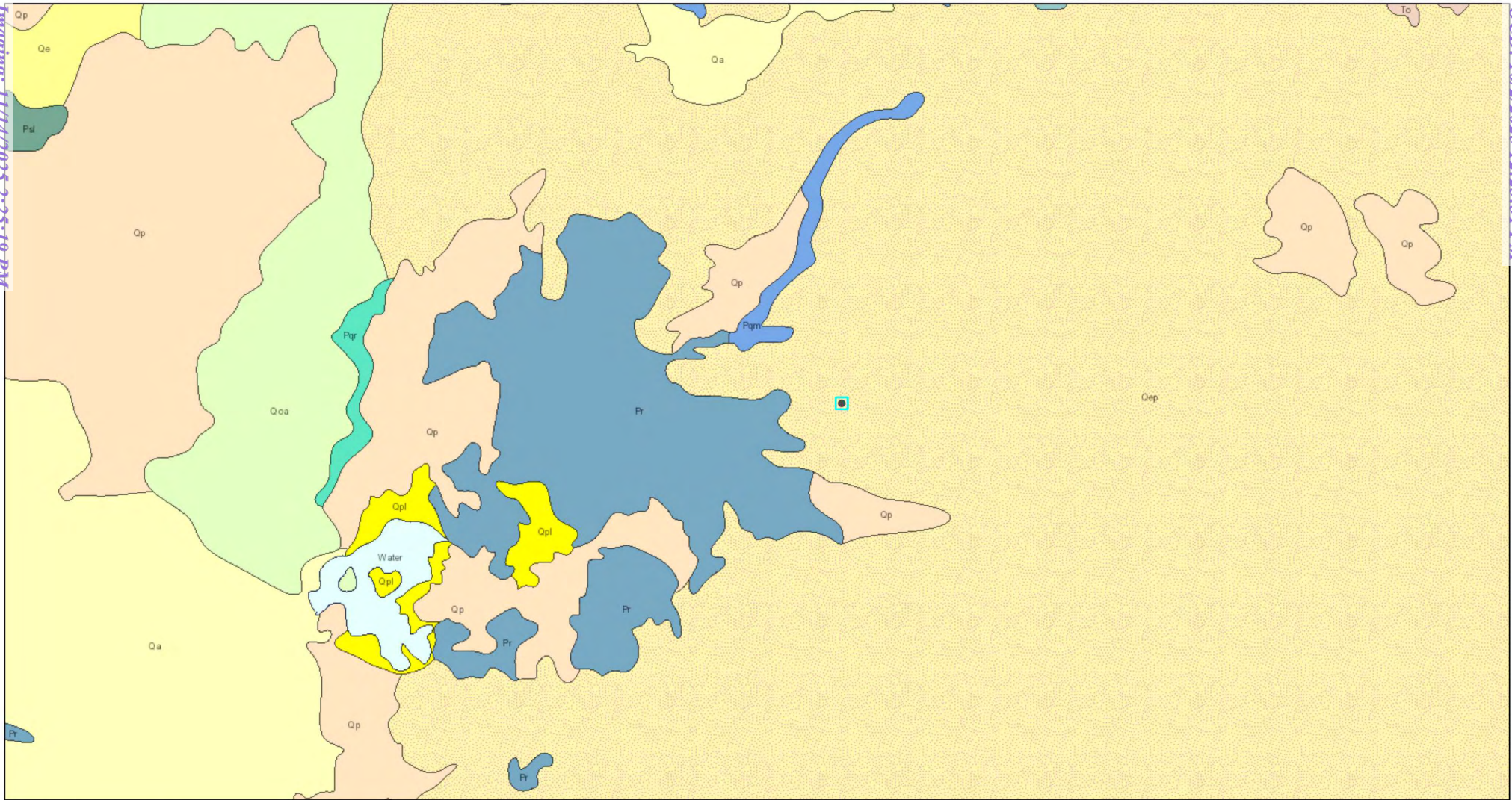
Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1	Warm Season			61–123	
	little bluestem	SCSC	<i>Schizachyrium scoparium</i>	61–123	–
2	Warm Season			37–61	
	sand bluestem	ANHA	<i>Andropogon hallii</i>	37–61	–
3	Warm Season			37–61	
	cane bluestem	BOBA3	<i>Bothriochloa barbinodis</i>	37–61	–
	silver bluestem	BOSA	<i>Bothriochloa saccharoides</i>	37–61	–
4	Warm Season			123–184	
	black grama	BOER4	<i>Bouteloua eriopoda</i>	123–184	–
	bush muhly	MUPO2	<i>Muhlenbergia porteri</i>	123–184	–
5	Warm Season			123–184	
	thin paspalum	PASE5	<i>Paspalum setaceum</i>	123–184	–
	plains bristlegrass	SEVU2	<i>Setaria vulpiseta</i>	123–184	–
	fringed signalgrass	URCI	<i>Urochloa ciliatissima</i>	123–184	–
6	Warm Season			123–184	
	spike dropseed	SPCO4	<i>Sporobolus contractus</i>	123–184	–
	sand dropseed	SPCR	<i>Sporobolus cryptandrus</i>	123–184	–
	mesa dropseed	SPFL2	<i>Sporobolus flexuosus</i>	123–184	–
7	Warm Season			61–123	
	hooded windmill grass	CHCU2	<i>Chloris cucullata</i>	61–123	–
	Arizona cottontop	DICA8	<i>Digitaria californica</i>	61–123	–
9	Other Perennial Grasses			37–61	
	Grass, perennial	2GP	<i>Grass, perennial</i>	37–61	–
Shrub/Vine					
8	Warm Season			37–61	
	New Mexico feathergrass	HENE5	<i>Hesperostipa neomexicana</i>	37–61	–
	giant dropseed	SPGI	<i>Sporobolus giganteus</i>	37–61	–
10	Shrub			61–123	

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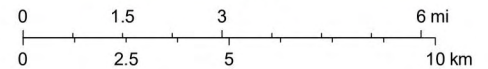
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Lithologic Units

- Playa—Alluvium and evaporite deposits (Holocene)
- Water—Perennial standing water
- Qa—Alluvium (Holocene to upper Pleistocene)
- Ql—Landslide deposits and colluvium (Holocene to Pleistocene) — Landslide deposits on western flanks of Socorro Mountains not shown for clarity
- Qpl—Lacustrine and playa deposits (Holocene) — Includes associated alluvial and eolian deposits of major lake basins
- Qp—Piedmont alluvial deposits (Holocene to lower Pleistocene)
- Qe—Eolian deposits (Holocene to middle Pleistocene)

Qeg—Gypsiferous eolian deposits (Holocene to middle Pleistocene)

1:144,448



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

APPENDIX C – Daily Field Reports



Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	7/8/2020
Site Location Name:	Apache 25 Federal 9	Report Run Date:	7/17/2020 11:43 PM
Client Contact Name:	Amanda Davis	API #:	30-015-32797
Client Contact Phone #:	(575) 748-0176		
Unique Project ID	-Apache 25 Federal 9	Project Owner:	Tom Bynum
Project Reference #	NAB1803838673	Project Manager:	Natalie Gordon

Summary of Times

Arrived at Site	7/8/2020 10:02 AM
Departed Site	7/8/2020 3:22 PM

Field Notes

16:56 Delineate 2018 historical release per NMOCD criteria (600/100 ppm).

Next Steps & Recommendations

- 1 Submit characterization samples for lab analysis.
- 2 Develop work remediation work plan and schedule remediation activity.



Daily Site Visit Report

Site Photos

Viewing Direction: North



Characterization Area

Viewing Direction: Northwest



Characterization Area

Viewing Direction: Northwest



Characterization Area

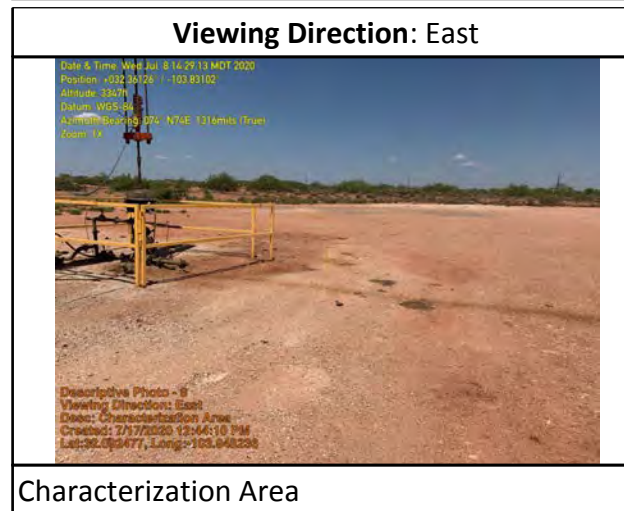
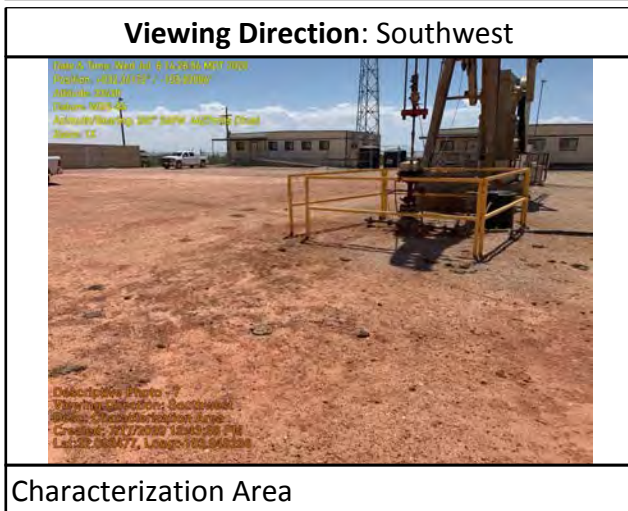
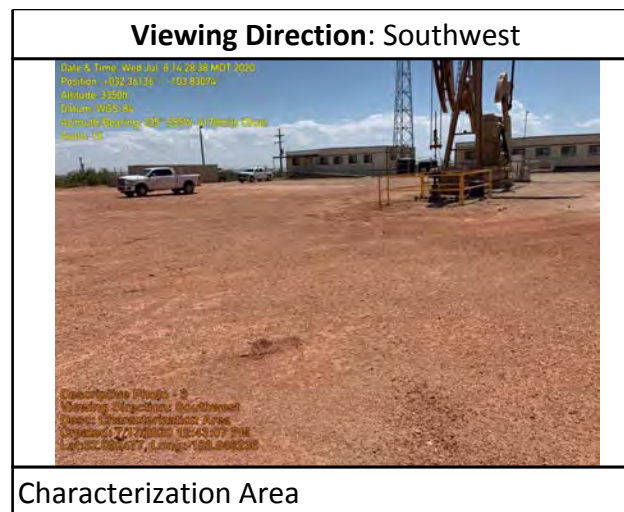
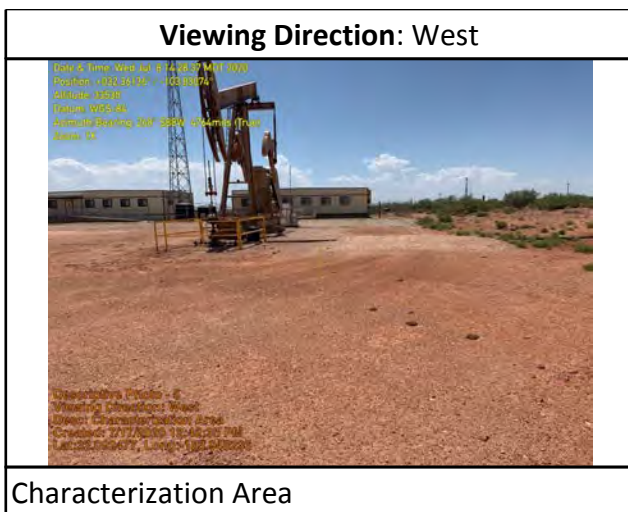
Viewing Direction: North



Characterization Area



Daily Site Visit Report



Daily Site Visit Report



Daily Site Visit Signature

Inspector: Kevin Smith

Signature:


Signature



Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	8/17/2020
Site Location Name:	Apache 25 Federal 9	Report Run Date:	8/19/2020 7:45 PM
Client Contact Name:	Amanda Davis	API #:	30-015-32797
Client Contact Phone #:	(575) 748-0176		
Unique Project ID	-Apache 25 Federal 9	Project Owner:	Tom Bynum
Project Reference #	NAB1803838673	Project Manager:	Natalie Gordon

Summary of Times

Arrived at Site	8/17/2020 9:44 AM
Departed Site	8/17/2020 12:49 PM

Field Notes

13:07 Delineate historical spill horizontally and vertically. The release will be delineated so that TPH is below 100 ppm and chlorides below 600 ppm.

Next Steps & Recommendations

- 1 Submit characterization samples for lab analysis.
- 2 A total of five surface samples and two borehole samples were submitted for characterization,
- 3 Develop remediation work plan.



Daily Site Visit Report

Site Photos

Viewing Direction: East



Reporting Photo - 1
Viewing Direction: East
Date: 08/19/2020 7:17:48 PM
Lat: 31.287746, Long: -104.227811

Delineation Area

Viewing Direction: West



Reporting Photo - 2
Viewing Direction: West
Date: 08/19/2020 7:17:48 PM
Lat: 31.287746, Long: -104.227811

Delineation area

Viewing Direction: Southwest



Reporting Photo - 3
Viewing Direction: Southwest
Date: 08/19/2020 7:17:48 PM
Lat: 31.287746, Long: -104.227811

Delineation area

Viewing Direction: North





Reporting Photo - 4
Viewing Direction: North
Date: 08/19/2020 7:17:48 PM
Lat: 31.287746, Long: -104.227811

Delineation area



Daily Site Visit Report

Viewing Direction: West	
	
Delineation area	

Viewing Direction: South	
	
Delineation area	

Daily Site Visit Report



Daily Site Visit Signature

Inspector: Kevin Smith

Signature: 
Signature



Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	12/8/2020
Site Location Name:	Apache 25 Federal 9	Report Run Date:	12/8/2020 11:15 PM
Client Contact Name:	Amanda Davis	API #:	30-015-32797
Client Contact Phone #:	(575) 748-0176		
Unique Project ID	-Apache 25 Federal 9	Project Owner:	Tom Bynum
Project Reference #	NAB1803838673	Project Manager:	Natalie Gordon

Summary of Times

Arrived at Site	12/8/2020 8:05 AM
Departed Site	12/8/2020 3:35 PM

Field Notes

8:05 Arrived on site and filled out safety paperwork.

Next Steps & Recommendations

- 1 Finish up remediation tomorrow.



Daily Site Visit Report

Site Photos

Viewing Direction: East



Excavation Photo - 2
Viewing Direction: East
Date: Looking at smaller area of excavation
Created: 10/2/2020 9:05:13 AM

Looking at smaller area of excavation.

Viewing Direction: West



Excavation Photo - 2
Viewing Direction: West
Date: Looking at smaller area of excavation
Created: 10/2/2020 9:05:13 AM

Start of bigger area.

Viewing Direction: East



Excavation Photo - 3
Viewing Direction: East
Date: Looking at bigger area
Created: 10/2/2020 9:05:13 AM

Looking East at bigger area.

Viewing Direction: Southeast



Excavation Photo - 3
Viewing Direction: Southeast
Date: Looking at bigger area
Created: 10/2/2020 9:05:13 AM

Looking southeast at bigger area.

Daily Site Visit Report



Daily Site Visit Signature

Inspector: John Ramirez

Signature:

Signature 



Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	12/9/2020
Site Location Name:	Apache 25 Federal 9	Report Run Date:	12/9/2020 9:21 PM
Client Contact Name:	Amanda Davis	API #:	30-015-32797
Client Contact Phone #:	(575) 748-0176		
Unique Project ID	-Apache 25 Federal 9	Project Owner:	Tom Bynum
Project Reference #	NAB1803838673	Project Manager:	Natalie Gordon

Summary of Times

Arrived at Site	12/9/2020 7:45 AM
Departed Site	12/9/2020 1:30 PM

Field Notes

7:47 Arrived on site and filled out safety paperwork.

Next Steps & Recommendations

- 1 Submit samples to lab.



Daily Site Visit Report

Site Photos

Viewing Direction: South



Looking at larger area of remediation.

Viewing Direction: North



Looking north at excavation.

Viewing Direction: Northeast



Looking North east at excavation.

Viewing Direction: East



Looking East at excavation.



Daily Site Visit Report



Daily Site Visit Report



Daily Site Visit Signature

Inspector: John Ramirez

Signature:

Signature 



Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	4/15/2023
Site Location Name:	Apache 25 Federal 9	Report Run Date:	4/16/2023 1:19 AM
Client Contact Name:	Wes Matthews	API #:	30-015-32797
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	4/15/2023 7:20 AM
Departed Site	4/15/2023 5:53 PM

Field Notes

- 7:56** Completed JSA on arrival. On site to continue delineation of historical excavation.
- 7:59** Remediation has taken place on site but delineation was not completed. Horizontal and vertical delineation of original release area subsequent excavation determine if more work is required.
- 8:22** Swept borehole locations with magnetic locator prior to ground disturbance.
- 10:08** Advanced BH23-04 and BH23-05 with historical 1 foot bgs excavation for vertical delineation.
- 17:53** Advanced BH23-06 through BH23-16 around previous work area for retroactive horizontal delineation.

Next Steps & Recommendations

1



Daily Site Visit Report

Site Photos

Viewing Direction: North



Descriptive Photo - 9
Viewing Direction: North
Date: South of pump jack facing north.
Created: 4/16/2023 4:11:06 AM
Lat:32.261346, Long:-103.621649

South of pump jack facing north.

Viewing Direction: Northwest



Descriptive Photo - 10
Viewing Direction: Northwest
Date: Southeast of wellhead facing northwest. Advanced BH23-12 for horizontal del
Created: 4/16/2023 11:18:51 AM
Lat:32.261207, Long:-103.630634

Southeast of wellhead facing northwest.
Advanced BH23-12 for horizontal delineation.

Viewing Direction: West



Descriptive Photo - 11
Viewing Direction: West
Date: East of wellhead facing west. Advanced BH23-13 for horizontal delineation.
Created: 4/16/2023 11:41:58 AM
Lat:32.261388, Long:-103.630760

East of wellhead facing west. Advanced BH23-13 for horizontal delineation.

Viewing Direction: Southwest



Descriptive Photo - 12
Viewing Direction: Southwest
Date: East-northeast of wellhead facing southwest. Advanced BH23-14 for horizont
Created: 4/16/2023 12:34:29 PM
Lat:32.261388, Long:-103.630774

East-northeast of wellhead facing southwest.
Advanced BH23-14 for horizontal delineation.



Daily Site Visit Report



Northeast of wellhead facing south. Advanced BH23-15 for horizontal delineation.



North of pump jack facing east. Advanced BH23-16 for horizontal delineation.



South of pump jack facing north. Advanced BH23-04 for vertical delineation.



South of pump jack facing north. Advanced BH23-05 for vertical delineation.



Daily Site Visit Report



South of pump jack facing east. Advanced BH23-06 for horizontal delineation.



Southwest of pump jack facing northeast. Advanced BH23-07 for horizontal delineation.



South-southwest of pump jack facing northeast. Advanced BH23-08 for horizontal delineation.




South of pump jack facing north. Advanced BH23-09 for horizontal delineation.



Daily Site Visit Report


Viewing Direction: North



Descriptive Photo - 8
Viewing Direction: North
Desc: South of pump jack facing north. Advanced BH23-10 for horizontal delineation.
Created: 4/15/2023 10:43:33 AM
Lat:32.361102, Long:-103.631090

South of pump jack facing north. Advanced BH23-10 for horizontal delineation.

Viewing Direction: Northeast



Descriptive Photo - 8
Viewing Direction: Northeast
Desc: South of pump jack facing northeast. Advanced BH23-11 for horizontal delineation.
Created: 4/15/2023 11:03:15 AM
Lat:32.361106, Long:-103.631091

South of pump jack facing northeast. Advanced BH23-11 for horizontal delineation.

Daily Site Visit Report



Daily Site Visit Signature

Inspector: Lakin Pullman

Signature:

A handwritten signature in black ink, appearing to be 'LP', written over a thin horizontal line. Below the line, the word 'Signature' is printed in a small font.



Daily Site Visit Report

Client:	Devon Energy Corporation	Incident ID #:	
Site Location Name:	Apache 25 Federal 9	API #:	30-015-32797
Inspection Date:	8/8/2025		

Summary of Times

Arrived at Site	8/8/2025 6:45 AM
Departed Site	8/8/2025 9:25 AM

Field Notes

- 7:00** Completed safety paperwork upon arrival
- 7:01** Completed secondary sweep before work began
- 8:22** Brice approved a test pit >10ft from the well head
- 8:23** As such BH25-18 selected to receive additional further delineation
- 8:24** Samples were collected at BH25-18 in 1ft increments from 3ft to 9ft

Next Steps & Recommendations

1



Daily Site Visit Report

Site Photos

Viewing Direction: Southwest



Descriptive Photo
Viewing Direction: Southwest
Name: Trench Initial dug to 9 ft
Created: 8/8/2025 8:59:22 AM
Lat: 32.381902, Long: -103.630948

Trench initial dug to 9 ft

Viewing Direction: North



Descriptive Photo
Viewing Direction: North
Name: A barrier was constructed between the crew hand digging and the delegation hole to prevent falls
Created: 8/8/2025 8:57:06 AM
Lat: 32.381784, Long: -103.630948

A barrier was constructed between the crew hand digging and the delegation hole to prevent falls



Daily Site Visit Report

Viewing Direction: West



Descriptive Photo - 4
Viewing Direction: West
Date: 10/2/2025 12:23:31 PM
Created: 10/2/2025 12:23:31 PM
Lat: 32.501295, Long: -103.530495

BH25-18 dug to 9ft as a trench sample. The bottom samples field screened clean. The area could not be excavated further without significant lateral expansion

Viewing Direction: North



Descriptive Photo - 5
Viewing Direction: North
Date: Hand digging began around the well head. Area plans to be excavated to 2ft
Created: 10/2/2025 12:23:31 PM
Lat: 32.501295, Long: -103.530495

Hand digging began around the well head. Area plans to be excavated to 2ft

Viewing Direction: North



Descriptive Photo - 6
Viewing Direction: North
Date: Full site photograph at the time that the vertex personal left site
Created: 10/2/2025 12:23:31 PM
Lat: 32.501295, Long: -103.530495

Full site photograph at the time that the vertex personal left site

Daily Site Visit Report



Daily Site Visit Signature

Inspector: Katrina Taylor

Signature:

A handwritten signature in black ink, appearing to be 'KT', written over a horizontal line. The word 'Signature' is printed in small text below the line.



Daily Site Visit Report

Client:	Devon Energy Corporation	Incident ID #:	nAB1803838673
Site Location Name:	Apache 25 Federal 9	API #:	30-015-32797
Inspection Date:	8/13/2025		

Summary of Times

Arrived at Site	8/13/2025 7:50 AM
Departed Site	8/13/2025 12:00 PM

Field Notes

- 8:17** Arrived on site and completed safety paperwork.
- 11:01** Collected 5 point composite samples along wall of 2 foot depth excavation and throughout base of excavation within 200 sq ft requirement. Cribbing is exposed to west around cellar and observed in photos below. (Sample bags are circled in red).
- 11:54** Field screened samples WS25-10 0-2ft and BS25-16 and -17 at 2 ft for chlorides and hydrocarbons. Field screening provided below criteria limits results. Prepared samples for lab analysis per standards.

Next Steps & Recommendations

- 1 Lab analytics



Daily Site Visit Report

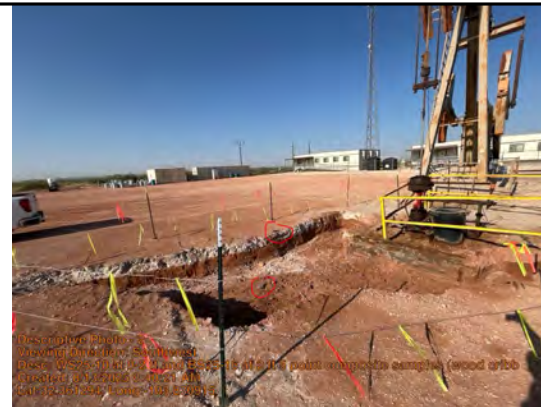
Site Photos

Viewing Direction: North



Site information placard


Viewing Direction: Southwest




WS25-10 at 0-2 ft and BS25-16 at 2 ft 5 point composite samples (wood cribbing around cellar exposed to west in photo)



Daily Site Visit Report

Viewing Direction: West	
	
WS25-10 at 0-2 ft and BS25-16 at 2 ft 5 point composite samples (wood cribbing around cellar exposed to west in photo)	

Viewing Direction: East	
	
BS25-17 at 2 ft on east side sample for less than 200 sq ft sufficiency satisfaction	

Daily Site Visit Report



Daily Site Visit Signature

Inspector: Stephanie McCartyM

Signature:

A handwritten signature in black ink, appearing to read 'Steph M', written over a horizontal line. The word 'Signature' is printed in small text below the line.



Daily Site Visit Report

Client:	Devon Energy Corporation	Incident ID #:	
Site Location Name:	Apache 25 Federal 9	API #:	30-015-32797
Inspection Date:	9/8/2025		

Summary of Times

Arrived at Site	9/8/2025 9:48 AM
Departed Site	9/8/2025 10:30 AM

Field Notes

- 10:01** JSA has been filled out at 9:52 am by Vertex Resources Environmental Technician
- 10:04** Collect BS25-16, BS25-17, and a backfill sample. All samples are five-point composites
- 10:13** Field screen samples, jar, and create a COC to send for lab analysis

Next Steps & Recommendations

- 1** Send samples for lab analysis



Daily Site Visit Report

Site Photos

Viewing Direction: Northwest



Site view of where BS25-17 and BS25-16 at 2.5ft was acquired. Image taken from the Southeast corner of the excavation

Viewing Direction: Southwest



Site view of where BS25-17 and BS25-16 at 2.5ft was acquired. Image taken from the Northwest corner of the excavation



Daily Site Visit Report

Viewing Direction: Northwest

Date & Time: Mon Sep 8 09:55:16 MDT 2025
Position: +032.36124 / -103.83086
Altitude: 1022m
Datum: WGS-84
Azimuth/Bearing: 042: N42E: 0747mils (True)
Zoom: 1x

Descriptive Photo: 1
Viewing Direction: Northwest
Shot: Site view of where BS25-17 and BS25-16 at 2.5ft was acquired. Image taken from the Northwest corner of the excavation
Camera: iPhone15, 10/25/2025, 10:25:16 AM
GPS: 36.124, -103.83086

Site view of where BS25-17 and BS25-16 at 2.5ft was acquired. Image taken from the Northwest corner of the excavation

Viewing Direction: Northeast

Date & Time: Mon Sep 8 09:55:16 MDT 2025
Position: +032.36124 / -103.83086
Altitude: 1022m
Datum: WGS-84
Azimuth/Bearing: 042: N42E: 0747mils (True)
Zoom: 1x

Descriptive Photo: 1
Viewing Direction: Northeast
Shot: Site view of where BS25-17 and BS25-16 at 2.5ft was acquired. Image taken from the Southwest corner of the excavation
Camera: iPhone15, 10/25/2025, 10:25:16 AM
GPS: 36.124, -103.83086

Site view of where BS25-17 and BS25-16 at 2.5ft was acquired. Image taken from the Southwest corner of the excavation

Viewing Direction: Northeast

Date & Time: Mon Sep 8 09:55:16 MDT 2025
Position: +032.36124 / -103.83086
Altitude: 1022m
Datum: WGS-84
Azimuth/Bearing: 042: N42E: 0747mils (True)
Zoom: 1x

Descriptive Photo: 1
Viewing Direction: Northeast
Shot: Site view of the backfill pile. Backfill sample was acquired from the pile
Camera: iPhone15, 10/25/2025, 10:25:16 AM
GPS: 36.124, -103.83086

Site view of the backfill pile. Backfill sample was acquired from the pile

Daily Site Visit Report



Daily Site Visit Signature

Inspector: Sharon Minnix

Signature:

A handwritten signature in black ink, appearing to read 'Sharon Minnix', written over a thin horizontal line. The signature is stylized with a large initial 'S' and a series of loops.



Daily Site Visit Report

Client:	Devon Energy Corporation	Incident ID #:	
Site Location Name:	Apache 25 Federal 9	API #:	30-015-32797
Inspection Date:	9/27/2025		

Summary of Times

Arrived at Site	9/27/2025 7:23 AM
Departed Site	9/27/2025 7:45 AM

Field Notes

- 7:43** Completed JSA on arrival. On site to inspect excavation backfill.
- 7:43** Confirmed that recent excavation had been backfilled with packed caliche to same grade as surrounding pad.
- 7:43** Observed and photographed background vegetation off north edge of pad.

Next Steps & Recommendations

1



Daily Site Visit Report

Site Photos

Viewing Direction: North



Descriptive Photo - 1
Viewing Direction: North
Area: South of pump jack facing north.
Created: 9/27/2025 7:01:17 AM
Lat:32.381149, Long:-103.637081

South of pump jack facing north.

Viewing Direction: East



Descriptive Photo - 2
Viewing Direction: East
Area: South of pump jack facing east. Excavation backfilled to grade.
Created: 9/27/2025 7:02:35 AM
Lat:32.381149, Long:-103.637079

South of pump jack facing east. Excavation backfilled to grade.

Viewing Direction: North



Descriptive Photo - 3
Viewing Direction: North
Area: Southeast of pump jack facing north. Excavation backfilled to grade.
Created: 9/27/2025 7:01:56 AM
Lat:32.381149, Long:-103.636973

Southeast of pump jack facing north. Excavation backfilled to grade.

Viewing Direction: Northwest



Descriptive Photo - 4
Viewing Direction: Northwest
Area: East-southeast of pump jack facing northwest. Excavation backfilled to grade.
Created: 9/27/2025 7:02:14 AM
Lat:32.381151, Long:-103.636971

East-southeast of pump jack facing northwest. Excavation backfilled to grade.



Daily Site Visit Report



East of pump jack facing west. Excavation backfilled to grade.



East-northeast of pump jack facing southwest. Excavation backfilled to grade.



Northeast of pump jack facing south. Excavation backfilled to grade.




North edge of pad facing northwest. Background vegetation north of pad.



Daily Site Visit Report


Viewing Direction: North



Description Photo -
Viewing Direction: North
Date: North edge of pad facing north. Background vegetation north of pad.
Created: 09/27/2025 9:01 PM UTC
Lat: 32.391276 Long: -103.910258

North edge of pad facing north. Background vegetation north of pad.

Viewing Direction: Northeast



Description Photo -
Viewing Direction: Northeast
Date: North edge of pad facing northeast. Background vegetation north of pad.
Created: 09/27/2025 9:01 PM UTC
Lat: 32.391276 Long: -103.910258

North edge of pad facing northeast. Background vegetation north of pad.

Daily Site Visit Report



Daily Site Visit Signature

Inspector: Lakin Pullman

Signature:

A handwritten signature in black ink, appearing to be 'Lakin Pullman', written over a horizontal line.

Signature

APPENDIX D – Notifications

Natalie Gordon

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Sunday, December 6, 2020 2:26 PM
To: Natalie Gordon
Subject: Fwd: NAB1803838673: Apache 25 Fed 9 - 48-hr Notification of Confirmatory Sampling

----- Forwarded message -----

From: **Dhugal Hanton** <vertexresourcegroupusa@gmail.com>
Date: Sun, Dec 6, 2020 at 2:25 PM
Subject: NAB1803838673: Apache 25 Fed 9 - 48-hr Notification of Confirmatory Sampling
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>, CFO_Spill, BLM_NM <blm_nm_cfo_spill@blm.gov>, Amos, James A <Jamos@blm.gov>, Kelsey <KWade@blm.gov>
Cc: <Lupe.Carrasco@dvn.com>, <wesley.mathews@dvn.com>, <tom.bynum@dvn.com>, <amanda.davis@dvn.com>

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled remediation activities and confirmatory sampling to be conducted at Apache 25 Fed 9 for the release that occurred on January 23, 2018, incident tracking # NAB1803838673.

This work will be completed on behalf of Devon Energy Production Company.

On Wednesday, December 9, 2020 at approximately 8:00 a.m., John Ramirez will be onsite to guide final remediation activities and conduct confirmatory sampling. He can be reached at 575-725-1809. If you need directions to the site, please do not hesitate to contact him. If you have any questions or concerns regarding this notification, please give me a call at 505-506-0040.

Thank you,
Natalie

Natalie Gordon
Project Manager

Vertex Resource Group Ltd.
213 S. Mesa Street
Carlsbad, NM 88220

P 575.725.5001 ext 709
C 505.506.0040
F

www.vertex.ca

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Natalie Gordon

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Monday, January 4, 2021 1:35 PM
To: Natalie Gordon
Subject: Fwd: NAB1803838673: Apache 25 Fed 9 - 48-hr Notification of Confirmatory Sampling

----- Forwarded message -----

From: **Dhugal Hanton** <vertexresourcegroupusa@gmail.com>
Date: Mon, Jan 4, 2021 at 1:35 PM
Subject: NAB1803838673: Apache 25 Fed 9 - 48-hr Notification of Confirmatory Sampling
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>, CFO_Spill, BLM_NM <blm_nm_cfo_spill@blm.gov>, Amos, James A <Jamos@blm.gov>, Kelsey <KWade@blm.gov>
Cc: <Lupe.Carrasco@dvn.com>, <amanda.davis@dvn.com>, <wesley.mathews@dvn.com>

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled additional remediation activities and confirmatory sampling to be conducted at Apache 25 Fed 9 for the release that occurred on January 23, 2018, incident tracking # NAB1803838673.

This work will be completed on behalf of Devon Energy Production Company.

On Wednesday, January 6 at approximately 11:00 a.m., John Ramirez will be onsite to guide final remediation activities and conduct confirmatory sampling. He can be reached at 575-725-1809. If you need directions to the site, please do not hesitate to contact him. If you have any questions or concerns regarding this notification, please give me a call at 505-506-0040.

Thank you,
Natalie

Natalie Gordon
Project Manager

Vertex Resource Group Ltd.
213 S. Mesa Street
Carlsbad, NM 88220

P 575.725.5001 ext 709
C 505.506.0040
F

www.vertex.ca

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APPENDIX E – Laboratory Data Reports and Chain of Custody Forms



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

July 20, 2020

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

RE: Apace 25 Fed 9

OrderNo.: 2007552

Dear Amanda Davis:

Hall Environmental Analysis Laboratory received 7 sample(s) on 7/11/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order **2007552**

Date Reported: **7/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: SS20-01 0'

Project: Apace 25 Fed 9

Collection Date: 7/8/2020 12:51:00 PM

Lab ID: 2007552-001

Matrix: SOIL

Received Date: 7/11/2020 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JME
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/14/2020 3:22:35 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/14/2020 3:22:35 PM
Surr: DNOP	64.9	55.1-146		%Rec	1	7/14/2020 3:22:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/14/2020 1:57:53 AM
Surr: BFB	86.6	66.6-105		%Rec	1	7/14/2020 1:57:53 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/14/2020 5:16:15 PM
Toluene	ND	0.050		mg/Kg	1	7/14/2020 5:16:15 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/14/2020 5:16:15 PM
Xylenes, Total	ND	0.099		mg/Kg	1	7/14/2020 5:16:15 PM
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	7/14/2020 5:16:15 PM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	ND	60		mg/Kg	20	7/16/2020 1:09:27 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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

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

Analytical Report

Lab Order **2007552**

Date Reported: 7/20/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: SS20-02 0'

Project: Apace 25 Fed 9

Collection Date: 7/8/2020 12:58:00 PM

Lab ID: 2007552-002

Matrix: SOIL

Received Date: 7/11/2020 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/14/2020 3:46:50 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/14/2020 3:46:50 PM
Surr: DNOP	63.0	55.1-146		%Rec	1	7/14/2020 3:46:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/14/2020 2:21:27 AM
Surr: BFB	87.4	66.6-105		%Rec	1	7/14/2020 2:21:27 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	7/14/2020 5:39:56 PM
Toluene	ND	0.049		mg/Kg	1	7/14/2020 5:39:56 PM
Ethylbenzene	ND	0.049		mg/Kg	1	7/14/2020 5:39:56 PM
Xylenes, Total	ND	0.098		mg/Kg	1	7/14/2020 5:39:56 PM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/14/2020 5:39:56 PM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	140	60		mg/Kg	20	7/16/2020 1:21:52 PM

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

Qualifiers:

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

Analytical Report

Lab Order **2007552**

Date Reported: **7/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: SS20-03 0'

Project: Apace 25 Fed 9

Collection Date: 7/8/2020 1:33:00 PM

Lab ID: 2007552-003

Matrix: SOIL

Received Date: 7/11/2020 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/14/2020 4:11:13 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/14/2020 4:11:13 PM
Surr: DNOP	79.9	55.1-146		%Rec	1	7/14/2020 4:11:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/14/2020 2:45:03 AM
Surr: BFB	86.9	66.6-105		%Rec	1	7/14/2020 2:45:03 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/14/2020 6:03:38 PM
Toluene	ND	0.050		mg/Kg	1	7/14/2020 6:03:38 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/14/2020 6:03:38 PM
Xylenes, Total	ND	0.099		mg/Kg	1	7/14/2020 6:03:38 PM
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	7/14/2020 6:03:38 PM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	ND	59		mg/Kg	20	7/16/2020 2:11:30 PM

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

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

Analytical Report

Lab Order **2007552**

Date Reported: 7/20/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: SS20-04 0'

Project: Apace 25 Fed 9

Collection Date: 7/8/2020 1:51:00 PM

Lab ID: 2007552-004

Matrix: SOIL

Received Date: 7/11/2020 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JME
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/14/2020 4:35:34 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/14/2020 4:35:34 PM
Surr: DNOP	58.1	55.1-146		%Rec	1	7/14/2020 4:35:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/14/2020 6:27:14 PM
Surr: BFB	90.4	66.6-105		%Rec	1	7/14/2020 6:27:14 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/14/2020 6:27:14 PM
Toluene	ND	0.049		mg/Kg	1	7/14/2020 6:27:14 PM
Ethylbenzene	ND	0.049		mg/Kg	1	7/14/2020 6:27:14 PM
Xylenes, Total	ND	0.098		mg/Kg	1	7/14/2020 6:27:14 PM
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/14/2020 6:27:14 PM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	95	60		mg/Kg	20	7/16/2020 2:23:55 PM

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

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

Analytical Report

Lab Order **2007552**

Date Reported: 7/20/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: SS20-05 0'

Project: Apace 25 Fed 9

Collection Date: 7/8/2020 2:18:00 PM

Lab ID: 2007552-005

Matrix: SOIL

Received Date: 7/11/2020 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JME
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/14/2020 4:59:57 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/14/2020 4:59:57 PM
Surr: DNOP	45.1	55.1-146	S	%Rec	1	7/14/2020 4:59:57 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/14/2020 7:37:54 PM
Surr: BFB	90.0	66.6-105		%Rec	1	7/14/2020 7:37:54 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/14/2020 7:37:54 PM
Toluene	ND	0.049		mg/Kg	1	7/14/2020 7:37:54 PM
Ethylbenzene	ND	0.049		mg/Kg	1	7/14/2020 7:37:54 PM
Xylenes, Total	ND	0.099		mg/Kg	1	7/14/2020 7:37:54 PM
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	7/14/2020 7:37:54 PM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	340	60		mg/Kg	20	7/16/2020 2:36:19 PM

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

Qualifiers:

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

Analytical Report

Lab Order **2007552**

Date Reported: **7/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH20-01 0-6"

Project: Apace 25 Fed 9

Collection Date: 7/8/2020 2:35:00 PM

Lab ID: 2007552-006

Matrix: SOIL

Received Date: 7/11/2020 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JME
Diesel Range Organics (DRO)	4000	96		mg/Kg	10	7/14/2020 11:06:03 AM
Motor Oil Range Organics (MRO)	3400	480		mg/Kg	10	7/14/2020 11:06:03 AM
Surr: DNOP	0	55.1-146	S	%Rec	10	7/14/2020 11:06:03 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	25	D	mg/Kg	5	7/14/2020 8:48:21 PM
Surr: BFB	86.5	66.6-105	D	%Rec	5	7/14/2020 8:48:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.12	D	mg/Kg	5	7/14/2020 8:48:21 PM
Toluene	ND	0.25	D	mg/Kg	5	7/14/2020 8:48:21 PM
Ethylbenzene	ND	0.25	D	mg/Kg	5	7/14/2020 8:48:21 PM
Xylenes, Total	ND	0.50	D	mg/Kg	5	7/14/2020 8:48:21 PM
Surr: 4-Bromofluorobenzene	102	80-120	D	%Rec	5	7/14/2020 8:48:21 PM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	1400	60		mg/Kg	20	7/16/2020 3:13:32 PM

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

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

Analytical Report

Lab Order **2007552**

Date Reported: **7/20/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH20-01 1'

Project: Apace 25 Fed 9

Collection Date: 7/8/2020 3:03:00 PM

Lab ID: 2007552-007

Matrix: SOIL

Received Date: 7/11/2020 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JME
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	7/14/2020 5:24:18 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/14/2020 5:24:18 PM
Surr: DNOP	37.8	55.1-146	S	%Rec	1	7/14/2020 5:24:18 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/14/2020 10:22:25 PM
Surr: BFB	90.1	66.6-105		%Rec	1	7/14/2020 10:22:25 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/14/2020 10:22:25 PM
Toluene	ND	0.050		mg/Kg	1	7/14/2020 10:22:25 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/14/2020 10:22:25 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/14/2020 10:22:25 PM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	7/14/2020 10:22:25 PM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	61	60		mg/Kg	20	7/16/2020 3:25:57 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2007552

20-Jul-20

Client: Devon Energy
Project: Apace 25 Fed 9

Sample ID: MB-53754	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 53754	RunNo: 70388								
Prep Date: 7/16/2020	Analysis Date: 7/16/2020	SeqNo: 2447699	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-53754	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 53754	RunNo: 70388								
Prep Date: 7/16/2020	Analysis Date: 7/16/2020	SeqNo: 2447700	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.1	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2007552

20-Jul-20

Client: Devon Energy
Project: Apace 25 Fed 9

Sample ID: MB-53669	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 53669	RunNo: 70308								
Prep Date: 7/13/2020	Analysis Date: 7/14/2020	SeqNo: 2443932	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		124	55.1	146			

Sample ID: LCS-53669	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 53669	RunNo: 70308								
Prep Date: 7/13/2020	Analysis Date: 7/14/2020	SeqNo: 2443934	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	10	50.00	0	119	70	130			
Surr: DNOP	5.5		5.000		110	55.1	146			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2007552

20-Jul-20

Client: Devon Energy
Project: Apace 25 Fed 9

Sample ID: mb-53656	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 53656		RunNo: 70301							
Prep Date: 7/12/2020	Analysis Date: 7/13/2020		SeqNo: 2443693		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	970		1000		97.4	66.6	105			

Sample ID: lcs-53656	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 53656		RunNo: 70301							
Prep Date: 7/12/2020	Analysis Date: 7/13/2020		SeqNo: 2443694		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	88.6	80	120			
Surr: BFB	1100		1000		105	66.6	105			S

Sample ID: mb-53657	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 53657		RunNo: 70338							
Prep Date: 7/12/2020	Analysis Date: 7/14/2020		SeqNo: 2444548		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	910		1000		91.2	66.6	105			

Sample ID: lcs-53657	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 53657		RunNo: 70338							
Prep Date: 7/12/2020	Analysis Date: 7/14/2020		SeqNo: 2444549		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	104	80	120			
Surr: BFB	1000		1000		102	66.6	105			

Sample ID: 2007552-005ams	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: SS20-05 0'	Batch ID: 53657		RunNo: 70338							
Prep Date: 7/12/2020	Analysis Date: 7/14/2020		SeqNo: 2444552		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.70	0	84.3	80	120			
Surr: BFB	1000		988.1		103	66.6	105			

Sample ID: 2007552-005amsd	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: SS20-05 0'	Batch ID: 53657		RunNo: 70338							
Prep Date: 7/12/2020	Analysis Date: 7/14/2020		SeqNo: 2444553		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2007552

20-Jul-20

Client: Devon Energy
Project: Apace 25 Fed 9

Sample ID: 2007552-005amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SS20-05 0'	Batch ID: 53657	RunNo: 70338								
Prep Date: 7/12/2020	Analysis Date: 7/14/2020	SeqNo: 2444553 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.39	0	84.6	80	120	0.898	20	
Surr: BFB	980		975.6		101	66.6	105	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2007552

20-Jul-20

Client: Devon Energy
Project: Apace 25 Fed 9

Sample ID: mb-53656	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 53656	RunNo: 70301								
Prep Date: 7/12/2020	Analysis Date: 7/13/2020	SeqNo: 2443719	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	1.1		1.000		106	80	120			

Sample ID: LCS-53656	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 53656	RunNo: 70301								
Prep Date: 7/12/2020	Analysis Date: 7/13/2020	SeqNo: 2443720	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	1.000	0	98.8	80	120			
Toluene	0.99	0.050	1.000	0	99.1	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.9	80	120			
Xylenes, Total	3.0	0.10	3.000	0	100	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID: mb-53657	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 53657	RunNo: 70338								
Prep Date: 7/12/2020	Analysis Date: 7/14/2020	SeqNo: 2444596	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	1.1		1.000		105	80	120			

Sample ID: LCS-53657	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 53657	RunNo: 70338								
Prep Date: 7/12/2020	Analysis Date: 7/14/2020	SeqNo: 2444597	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	95.9	80	120			
Toluene	0.96	0.050	1.000	0	96.0	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.6	80	120			
Xylenes, Total	2.9	0.10	3.000	0	98.1	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2007552

20-Jul-20

Client: Devon Energy
Project: Apace 25 Fed 9

Sample ID: 2007552-004ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: SS20-04 0'	Batch ID: 53657	RunNo: 70338								
Prep Date: 7/12/2020	Analysis Date: 7/14/2020	SeqNo: 2444599	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	0.9872	0	91.7	78.5	119			
Toluene	0.93	0.049	0.9872	0.01150	93.5	75.7	123			
Ethylbenzene	0.95	0.049	0.9872	0	95.9	74.3	126			
Xylenes, Total	2.9	0.099	2.962	0	96.9	72.9	130			
Surr: 4-Bromofluorobenzene	1.1		0.9872		108	80	120			

Sample ID: 2007552-004amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: SS20-04 0'	Batch ID: 53657	RunNo: 70338								
Prep Date: 7/12/2020	Analysis Date: 7/14/2020	SeqNo: 2444600	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.024	0.9747	0	96.3	78.5	119	3.62	20	
Toluene	0.96	0.049	0.9747	0.01150	97.1	75.7	123	2.53	20	
Ethylbenzene	0.97	0.049	0.9747	0	99.8	74.3	126	2.67	20	
Xylenes, Total	2.9	0.097	2.924	0	100	72.9	130	2.20	20	
Surr: 4-Bromofluorobenzene	1.0		0.9747		108	80	120	0	0	

Qualifiers:

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



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3973 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **Devon Energy**

Work Order Number: **2007552**

RcptNo: **1**

Received By: **Isaiah Ortiz**

7/11/2020 7:10:00 AM

Isaiah

Completed By: **Isaiah Ortiz**

7/11/2020 8:04:02 AM

Isaiah

Reviewed By: **Tom**

7/10/2020

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:

TO
7/11/20

Special Handling (if applicable)

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

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good	Not Present			

Chain-of-Custody Record

Client: Devon

Mailing Address: ON FILE

Phone #:

email or Fax#:

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

Accreditation: Az Compliance
 NELAC Other
 EDD (Type)

Turn-Around Time: 5 Day Turn

Standard Rush

Project Name: Apache 25 Fed 9

Project #: 20779806

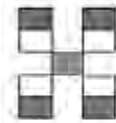
Project Manager: Natalie Gordon

Sampler: Kevin Smith

On Ice: Yes No

of Coolers: 1

Cooler Temp (including CS): 0.1 (REF) 24°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.	BTEX	MTBE / TMB's (9021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDS (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	COF, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
7/8/09	12:51	Soil	SS20-01 0'	4oz jar	ICE	001	X	X						X			
	12:58		SS20-02 0'			002											
	1:53		SS20-03 0"			003											
	1:51		SS20-04 0'			004											
	2:16		SS20-05 0'			005											
	2:35		BH20-11 0-6"			006											
	3:05		BH20-01 1'			007											

Date: 7/10/09 Time: 9:00 Relinquished by: Gummings

Date: 7/10/09 Time: 12:00 Received by: Gummings Via:

Date: 7/10/09 Time: 09:10 Relinquished by: Gummings

Date: 7/10/09 Time: 09:10 Received by: Kevin Smith Via:

Remarks: Send to Natalie Gordon
Bill Devon Energy

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 noted on the analytical report.



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

August 27, 2020

Amanda Davis
Devon Energy
6488 Seven Rivers Highway
Artesia, NM 88210
TEL: (575) 748-0176
FAX:

RE: Apache 25 Fed 9

OrderNo.: 2008A76

Dear Amanda Davis:

Hall Environmental Analysis Laboratory received 7 sample(s) on 8/20/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order **2008A76**

Date Reported: **8/27/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: SS20-01 0'

Project: Apache 25 Fed 9

Collection Date: 8/17/2020 11:02:00 AM

Lab ID: 2008A76-001

Matrix: SOIL

Received Date: 8/20/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/24/2020 10:18:06 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/24/2020 10:18:06 AM
Surr: DNOP	81.8	30.4-154		%Rec	1	8/24/2020 10:18:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/23/2020 1:46:37 AM
Surr: BFB	99.4	75.3-105		%Rec	1	8/23/2020 1:46:37 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/23/2020 1:46:37 AM
Toluene	ND	0.048		mg/Kg	1	8/23/2020 1:46:37 AM
Ethylbenzene	ND	0.048		mg/Kg	1	8/23/2020 1:46:37 AM
Xylenes, Total	ND	0.096		mg/Kg	1	8/23/2020 1:46:37 AM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	8/23/2020 1:46:37 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	380	61		mg/Kg	20	8/26/2020 10:03:40 AM

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

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

Analytical Report

Lab Order **2008A76**

Date Reported: **8/27/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: SS20-02 0'

Project: Apache 25 Fed 9

Collection Date: 8/17/2020 11:17:00 AM

Lab ID: 2008A76-002

Matrix: SOIL

Received Date: 8/20/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/24/2020 11:30:48 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/24/2020 11:30:48 AM
Surr: DNOP	80.0	30.4-154		%Rec	1	8/24/2020 11:30:48 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/23/2020 2:56:52 AM
Surr: BFB	97.6	75.3-105		%Rec	1	8/23/2020 2:56:52 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	8/23/2020 2:56:52 AM
Toluene	ND	0.047		mg/Kg	1	8/23/2020 2:56:52 AM
Ethylbenzene	ND	0.047		mg/Kg	1	8/23/2020 2:56:52 AM
Xylenes, Total	ND	0.093		mg/Kg	1	8/23/2020 2:56:52 AM
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/23/2020 2:56:52 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	880	60		mg/Kg	20	8/26/2020 10:40:55 AM

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

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

Analytical Report

Lab Order **2008A76**

Date Reported: **8/27/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: SS20-03 0'

Project: Apache 25 Fed 9

Collection Date: 8/17/2020 11:42:00 AM

Lab ID: 2008A76-003

Matrix: SOIL

Received Date: 8/20/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/24/2020 11:54:55 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/24/2020 11:54:55 AM
Surr: DNOP	80.3	30.4-154		%Rec	1	8/24/2020 11:54:55 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/23/2020 4:07:23 AM
Surr: BFB	95.3	75.3-105		%Rec	1	8/23/2020 4:07:23 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/23/2020 4:07:23 AM
Toluene	ND	0.049		mg/Kg	1	8/23/2020 4:07:23 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/23/2020 4:07:23 AM
Xylenes, Total	ND	0.097		mg/Kg	1	8/23/2020 4:07:23 AM
Surr: 4-Bromofluorobenzene	99.2	80-120		%Rec	1	8/23/2020 4:07:23 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	570	61		mg/Kg	20	8/26/2020 11:42:59 AM

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

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

Analytical Report

Lab Order **2008A76**

Date Reported: **8/27/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: SS20-04 0'

Project: Apache 25 Fed 9

Collection Date: 8/17/2020 12:01:00 PM

Lab ID: 2008A76-004

Matrix: SOIL

Received Date: 8/20/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/24/2020 12:19:15 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/24/2020 12:19:15 PM
Surr: DNOP	81.0	30.4-154		%Rec	1	8/24/2020 12:19:15 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/23/2020 4:30:53 AM
Surr: BFB	96.1	75.3-105		%Rec	1	8/23/2020 4:30:53 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/23/2020 4:30:53 AM
Toluene	ND	0.049		mg/Kg	1	8/23/2020 4:30:53 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/23/2020 4:30:53 AM
Xylenes, Total	ND	0.097		mg/Kg	1	8/23/2020 4:30:53 AM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	8/23/2020 4:30:53 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	790	60		mg/Kg	20	8/26/2020 11:55:24 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2008A76**

Date Reported: **8/27/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: SS20-05 0'

Project: Apache 25 Fed 9

Collection Date: 8/17/2020 12:09:00 PM

Lab ID: 2008A76-005

Matrix: SOIL

Received Date: 8/20/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/24/2020 12:43:26 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/24/2020 12:43:26 PM
Surr: DNOP	85.5	30.4-154		%Rec	1	8/24/2020 12:43:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/23/2020 4:54:15 AM
Surr: BFB	95.6	75.3-105		%Rec	1	8/23/2020 4:54:15 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	8/23/2020 4:54:15 AM
Toluene	ND	0.048		mg/Kg	1	8/23/2020 4:54:15 AM
Ethylbenzene	ND	0.048		mg/Kg	1	8/23/2020 4:54:15 AM
Xylenes, Total	ND	0.096		mg/Kg	1	8/23/2020 4:54:15 AM
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/23/2020 4:54:15 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	660	60		mg/Kg	20	8/26/2020 12:07:48 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2008A76**

Date Reported: **8/27/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH20-01 0'

Project: Apache 25 Fed 9

Collection Date: 8/17/2020 12:30:00 PM

Lab ID: 2008A76-006

Matrix: SOIL

Received Date: 8/20/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/24/2020 1:07:46 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/24/2020 1:07:46 PM
Surr: DNOP	87.1	30.4-154		%Rec	1	8/24/2020 1:07:46 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/23/2020 5:18:10 AM
Surr: BFB	98.8	75.3-105		%Rec	1	8/23/2020 5:18:10 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/23/2020 5:18:10 AM
Toluene	ND	0.050		mg/Kg	1	8/23/2020 5:18:10 AM
Ethylbenzene	ND	0.050		mg/Kg	1	8/23/2020 5:18:10 AM
Xylenes, Total	ND	0.099		mg/Kg	1	8/23/2020 5:18:10 AM
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	8/23/2020 5:18:10 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	300	60		mg/Kg	20	8/26/2020 12:20:13 PM

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

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

Analytical Report

Lab Order **2008A76**

Date Reported: **8/27/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BH20-01 1'

Project: Apache 25 Fed 9

Collection Date: 8/17/2020 12:51:00 PM

Lab ID: 2008A76-007

Matrix: SOIL

Received Date: 8/20/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	1900	93		mg/Kg	10	8/24/2020 1:32:02 PM
Motor Oil Range Organics (MRO)	2400	470		mg/Kg	10	8/24/2020 1:32:02 PM
Surr: DNOP	0	30.4-154	S	%Rec	10	8/24/2020 1:32:02 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/23/2020 5:42:08 AM
Surr: BFB	96.6	75.3-105		%Rec	1	8/23/2020 5:42:08 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	8/23/2020 5:42:08 AM
Toluene	ND	0.049		mg/Kg	1	8/23/2020 5:42:08 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/23/2020 5:42:08 AM
Xylenes, Total	ND	0.099		mg/Kg	1	8/23/2020 5:42:08 AM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	8/23/2020 5:42:08 AM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	810	60		mg/Kg	20	8/26/2020 12:32:38 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2008A76

27-Aug-20

Client: Devon Energy
Project: Apache 25 Fed 9

Sample ID: MB-54693	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 54693	RunNo: 71402								
Prep Date: 8/26/2020	Analysis Date: 8/26/2020	SeqNo: 2492791	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-54693	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 54693	RunNo: 71402								
Prep Date: 8/26/2020	Analysis Date: 8/26/2020	SeqNo: 2492792	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.8	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2008A76

27-Aug-20

Client: Devon Energy
Project: Apache 25 Fed 9

Sample ID: MB-54601	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 54601	RunNo: 71331								
Prep Date: 8/21/2020	Analysis Date: 8/24/2020	SeqNo: 2489710	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.7		10.00		96.7	30.4	154			

Sample ID: LCS-54601	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 54601	RunNo: 71331								
Prep Date: 8/21/2020	Analysis Date: 8/24/2020	SeqNo: 2489711	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.3	70	130			
Surr: DNOP	4.8		5.000		97.0	30.4	154			

Sample ID: 2008A76-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SS20-01 0'	Batch ID: 54601	RunNo: 71331								
Prep Date: 8/21/2020	Analysis Date: 8/24/2020	SeqNo: 2489713	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.6	47.80	0	87.3	47.4	136			
Surr: DNOP	3.4		4.780		71.7	30.4	154			

Sample ID: 2008A76-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SS20-01 0'	Batch ID: 54601	RunNo: 71331								
Prep Date: 8/21/2020	Analysis Date: 8/24/2020	SeqNo: 2489714	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.6	47.98	0	93.1	47.4	136	6.78	43.4	
Surr: DNOP	4.1		4.798		84.5	30.4	154	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2008A76

27-Aug-20

Client: Devon Energy
Project: Apache 25 Fed 9

Sample ID: mb-54588	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 54588	RunNo: 71272								
Prep Date: 8/20/2020	Analysis Date: 8/23/2020	SeqNo: 2486966	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	950		1000		95.1	75.3	105			

Sample ID: lcs-54588	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 54588	RunNo: 71272								
Prep Date: 8/20/2020	Analysis Date: 8/22/2020	SeqNo: 2486967	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	83.2	72.5	106			
Surr: BFB	1000		1000		104	75.3	105			

Sample ID: 2008a76-002ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SS20-02 0'	Batch ID: 54588	RunNo: 71272								
Prep Date: 8/20/2020	Analysis Date: 8/23/2020	SeqNo: 2486970	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.7	23.41	0	83.8	61.3	114			
Surr: BFB	1000		936.3		108	75.3	105			S

Sample ID: 2008a76-002amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SS20-02 0'	Batch ID: 54588	RunNo: 71272								
Prep Date: 8/20/2020	Analysis Date: 8/23/2020	SeqNo: 2486971	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.7	23.74	0	82.0	61.3	114	0.708	20	
Surr: BFB	1000		949.7		107	75.3	105	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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2008A76

27-Aug-20

Client: Devon Energy
Project: Apache 25 Fed 9

Sample ID: mb-54588	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 54588	RunNo: 71272								
Prep Date: 8/20/2020	Analysis Date: 8/23/2020	SeqNo: 2487063	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	1.0		1.000		103	80	120			

Sample ID: LCS-54588	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 54588	RunNo: 71272								
Prep Date: 8/20/2020	Analysis Date: 8/23/2020	SeqNo: 2487064	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	0.96	0.050	1.000	0	96.4	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.4	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.2	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID: 2008a76-001ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: SS20-01 0'	Batch ID: 54588	RunNo: 71272								
Prep Date: 8/20/2020	Analysis Date: 8/23/2020	SeqNo: 2487066	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	0.9872	0	93.6	76.3	120			
Toluene	0.93	0.049	0.9872	0	94.4	78.5	120			
Ethylbenzene	0.94	0.049	0.9872	0	94.9	78.1	124			
Xylenes, Total	2.8	0.099	2.962	0	95.5	79.3	125			
Surr: 4-Bromofluorobenzene	1.0		0.9872		105	80	120			

Sample ID: 2008a76-001amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: SS20-01 0'	Batch ID: 54588	RunNo: 71272								
Prep Date: 8/20/2020	Analysis Date: 8/23/2020	SeqNo: 2487067	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	0.9911	0	91.8	76.3	120	1.45	20	
Toluene	0.93	0.050	0.9911	0	94.1	78.5	120	0.120	20	
Ethylbenzene	0.94	0.050	0.9911	0	95.0	78.1	124	0.564	20	
Xylenes, Total	2.8	0.099	2.973	0	95.4	79.3	125	0.231	20	
Surr: 4-Bromofluorobenzene	1.0		0.9911		104	80	120	0	0	

Qualifiers:

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



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

Sample Log-In Check List

Client Name: **Devon Energy** Work Order Number: **2008A76** RcptNo: **1**

Received By: **Juan Rojas** 8/20/2020 8:00:00 AM *Juan Rojas*
 Completed By: **Juan Rojas** 8/20/2020 8:57:46 AM *Juan Rojas*
 Reviewed By: *my* 08/20/20

Chain of Custody

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

Log In

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

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)
 Adjusted? _____
 Checked by: *Cmc 8/20/20*

Special Handling (if applicable)

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

Person Notified:	<u>Natalie</u>	Date:	<u>8/24</u>
By Whom:	<u>Desiree</u>	Via:	<input checked="" type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<u>DATES on COC & BOTTLE</u>		
Client Instructions:	<u>SEE attached email - go with COC</u>		

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.6	Good				

Desiree Dominguez

From: Natalie Gordon <ngordon@vertex.ca>
Sent: Monday, August 24, 2020 2:28 PM
To: Desiree Dominguez
Subject: RE: Apache 25 Fed 9 and Lava Tube 27 State 001H

Hi Desiree,

My apologies for the wonky dates. Please use 8/17 for the samples (the date that is on the COC).

You can just make a note on the COC that SS20-05 for Lava Tube was not received and I will be sure to address it in my final report.

Thank you for the heads up.
Natalie

From: Desiree Dominguez <dad@hallenvironmental.com>
Sent: Monday, August 24, 2020 10:50 AM
To: Natalie Gordon <ngordon@vertex.ca>
Subject: Apache 25 Fed 9 and Lava Tube 27 State 001H

Good morning Natalie,
So we received your samples for Apache 25 Fed 9 on Thursday 8/20 and the COC has a date of 8/17 and the jars have a date of 8/19. Let me know which we should stick with.

Also the project Lava Tube 27 State 001H was received Saturday; and we were missing sample 005 Which is SS20-05 0'

Look forward to hearing back when you have time.
Thank you,
Desiree Dominguez
Hall Environmental Analysis Lab



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

April 28, 2023

Kent Stallings

Vertex Resources Services, Inc.

3101 Boyd Drive

Carlsbad, NM 88220

TEL: (505) 506-0040

FAX:

RE: Apache 25 Federal 009

OrderNo.: 2304732

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 35 sample(s) on 4/18/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-02 0'

Project: Apache 25 Federal 009

Collection Date: 4/14/2023 1:35:00 PM

Lab ID: 2304732-001

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	180	9.7		mg/Kg	1	4/20/2023 1:34:18 PM
Motor Oil Range Organics (MRO)	190	48		mg/Kg	1	4/20/2023 1:34:18 PM
Surr: DNOP	101	69-147		%Rec	1	4/20/2023 1:34:18 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/21/2023 4:09:00 AM
Surr: BFB	90.2	37.7-212		%Rec	1	4/21/2023 4:09:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/21/2023 4:09:00 AM
Toluene	ND	0.049		mg/Kg	1	4/21/2023 4:09:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/21/2023 4:09:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/21/2023 4:09:00 AM
Surr: 4-Bromofluorobenzene	85.9	70-130		%Rec	1	4/21/2023 4:09:00 AM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	430	60		mg/Kg	20	4/20/2023 11:49:16 PM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-02 2'

Project: Apache 25 Federal 009

Collection Date: 4/14/2023 1:40:00 PM

Lab ID: 2304732-002

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/20/2023 1:55:45 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/20/2023 1:55:45 PM
Surr: DNOP	86.3	69-147		%Rec	1	4/20/2023 1:55:45 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/21/2023 4:31:00 AM
Surr: BFB	96.1	37.7-212		%Rec	1	4/21/2023 4:31:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	4/21/2023 4:31:00 AM
Toluene	ND	0.047		mg/Kg	1	4/21/2023 4:31:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	4/21/2023 4:31:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	4/21/2023 4:31:00 AM
Surr: 4-Bromofluorobenzene	88.3	70-130		%Rec	1	4/21/2023 4:31:00 AM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	120	60		mg/Kg	20	4/21/2023 12:01:40 AM

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

Qualifiers:

- | | | | |
|-----|---|----|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| D | Sample Diluted Due to Matrix | E | Above Quantitation Range/Estimated Value |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| PQL | Practical Quantitative Limit | RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. | | |

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-02 4'

Project: Apache 25 Federal 009

Collection Date: 4/14/2023 1:45:00 PM

Lab ID: 2304732-003

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/20/2023 2:06:34 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/20/2023 2:06:34 PM
Surr: DNOP	81.8	69-147		%Rec	1	4/20/2023 2:06:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/21/2023 4:52:00 AM
Surr: BFB	92.1	37.7-212		%Rec	1	4/21/2023 4:52:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/21/2023 4:52:00 AM
Toluene	ND	0.048		mg/Kg	1	4/21/2023 4:52:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/21/2023 4:52:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/21/2023 4:52:00 AM
Surr: 4-Bromofluorobenzene	89.0	70-130		%Rec	1	4/21/2023 4:52:00 AM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	160	60		mg/Kg	20	4/21/2023 12:14:04 AM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-02 6'

Project: Apache 25 Federal 009

Collection Date: 4/14/2023 1:50:00 PM

Lab ID: 2304732-004

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	4/20/2023 2:17:25 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/20/2023 2:17:25 PM
Surr: DNOP	88.0	69-147		%Rec	1	4/20/2023 2:17:25 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/21/2023 5:14:00 AM
Surr: BFB	93.0	37.7-212		%Rec	1	4/21/2023 5:14:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/21/2023 5:14:00 AM
Toluene	ND	0.048		mg/Kg	1	4/21/2023 5:14:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/21/2023 5:14:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	4/21/2023 5:14:00 AM
Surr: 4-Bromofluorobenzene	87.8	70-130		%Rec	1	4/21/2023 5:14:00 AM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	73	60		mg/Kg	20	4/21/2023 12:26:29 AM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-03 0'

Project: Apache 25 Federal 009

Collection Date: 4/14/2023 4:00:00 PM

Lab ID: 2304732-005

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/20/2023 2:28:16 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/20/2023 2:28:16 PM
Surr: DNOP	115	69-147		%Rec	1	4/20/2023 2:28:16 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/21/2023 5:36:00 AM
Surr: BFB	90.1	37.7-212		%Rec	1	4/21/2023 5:36:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/21/2023 5:36:00 AM
Toluene	ND	0.050		mg/Kg	1	4/21/2023 5:36:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/21/2023 5:36:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/21/2023 5:36:00 AM
Surr: 4-Bromofluorobenzene	87.6	70-130		%Rec	1	4/21/2023 5:36:00 AM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	ND	60		mg/Kg	20	4/21/2023 12:38:54 AM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-03 2'

Project: Apache 25 Federal 009

Collection Date: 4/14/2023 4:10:00 PM

Lab ID: 2304732-006

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/20/2023 2:39:04 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/20/2023 2:39:04 PM
Surr: DNOP	79.6	69-147		%Rec	1	4/20/2023 2:39:04 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/21/2023 5:57:00 AM
Surr: BFB	94.3	37.7-212		%Rec	1	4/21/2023 5:57:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	4/21/2023 5:57:00 AM
Toluene	ND	0.046		mg/Kg	1	4/21/2023 5:57:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	4/21/2023 5:57:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	4/21/2023 5:57:00 AM
Surr: 4-Bromofluorobenzene	89.0	70-130		%Rec	1	4/21/2023 5:57:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	4/21/2023 9:41:25 AM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-03 4'

Project: Apache 25 Federal 009

Collection Date: 4/14/2023 4:20:00 PM

Lab ID: 2304732-007

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/20/2023 2:49:53 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/20/2023 2:49:53 PM
Surr: DNOP	84.6	69-147		%Rec	1	4/20/2023 2:49:53 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/21/2023 6:19:00 AM
Surr: BFB	89.7	37.7-212		%Rec	1	4/21/2023 6:19:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/21/2023 6:19:00 AM
Toluene	ND	0.049		mg/Kg	1	4/21/2023 6:19:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/21/2023 6:19:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/21/2023 6:19:00 AM
Surr: 4-Bromofluorobenzene	89.1	70-130		%Rec	1	4/21/2023 6:19:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	4/21/2023 9:53:50 AM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-04 0'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 8:30:00 AM

Lab ID: 2304732-008

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/20/2023 3:00:41 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/20/2023 3:00:41 PM
Surr: DNOP	106	69-147		%Rec	1	4/20/2023 3:00:41 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/21/2023 6:40:00 AM
Surr: BFB	91.8	37.7-212		%Rec	1	4/21/2023 6:40:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/21/2023 6:40:00 AM
Toluene	ND	0.049		mg/Kg	1	4/21/2023 6:40:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/21/2023 6:40:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/21/2023 6:40:00 AM
Surr: 4-Bromofluorobenzene	88.2	70-130		%Rec	1	4/21/2023 6:40:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	4/21/2023 10:06:14 AM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-04 2'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 8:35:00 AM

Lab ID: 2304732-009

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/21/2023 4:31:50 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/21/2023 4:31:50 PM
Surr: DNOP	144	69-147		%Rec	1	4/21/2023 4:31:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/22/2023 12:58:00 AM
Surr: BFB	91.7	37.7-212		%Rec	1	4/22/2023 12:58:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/22/2023 12:58:00 AM
Toluene	ND	0.049		mg/Kg	1	4/22/2023 12:58:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/22/2023 12:58:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/22/2023 12:58:00 AM
Surr: 4-Bromofluorobenzene	87.6	70-130		%Rec	1	4/22/2023 12:58:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	4/21/2023 10:18:39 AM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-04 4'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 8:40:00 AM

Lab ID: 2304732-010

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/21/2023 5:04:13 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/21/2023 5:04:13 PM
Surr: DNOP	100	69-147		%Rec	1	4/21/2023 5:04:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/22/2023 2:03:00 AM
Surr: BFB	92.3	37.7-212		%Rec	1	4/22/2023 2:03:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/22/2023 2:03:00 AM
Toluene	ND	0.048		mg/Kg	1	4/22/2023 2:03:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/22/2023 2:03:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/22/2023 2:03:00 AM
Surr: 4-Bromofluorobenzene	86.8	70-130		%Rec	1	4/22/2023 2:03:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	61	60		mg/Kg	20	4/21/2023 10:31:04 AM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-05 0'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 8:55:00 AM

Lab ID: 2304732-011

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	4/21/2023 5:14:55 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/21/2023 5:14:55 PM
Surr: DNOP	99.0	69-147		%Rec	1	4/21/2023 5:14:55 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/22/2023 3:08:00 AM
Surr: BFB	92.4	37.7-212		%Rec	1	4/22/2023 3:08:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	4/22/2023 3:08:00 AM
Toluene	ND	0.047		mg/Kg	1	4/22/2023 3:08:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	4/22/2023 3:08:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	4/22/2023 3:08:00 AM
Surr: 4-Bromofluorobenzene	84.2	70-130		%Rec	1	4/22/2023 3:08:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	4/21/2023 10:43:28 AM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-05 2'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 9:00:00 AM

Lab ID: 2304732-012

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/21/2023 5:25:36 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/21/2023 5:25:36 PM
Surr: DNOP	103	69-147		%Rec	1	4/21/2023 5:25:36 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/22/2023 3:29:00 AM
Surr: BFB	89.3	37.7-212		%Rec	1	4/22/2023 3:29:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/22/2023 3:29:00 AM
Toluene	ND	0.047		mg/Kg	1	4/22/2023 3:29:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	4/22/2023 3:29:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	4/22/2023 3:29:00 AM
Surr: 4-Bromofluorobenzene	86.6	70-130		%Rec	1	4/22/2023 3:29:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	4/21/2023 10:55:37 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	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-05 4'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 9:05:00 AM

Lab ID: 2304732-013

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/21/2023 5:36:18 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/21/2023 5:36:18 PM
Surr: DNOP	102	69-147		%Rec	1	4/21/2023 5:36:18 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/22/2023 3:51:00 AM
Surr: BFB	94.9	37.7-212		%Rec	1	4/22/2023 3:51:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/22/2023 3:51:00 AM
Toluene	ND	0.048		mg/Kg	1	4/22/2023 3:51:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/22/2023 3:51:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/22/2023 3:51:00 AM
Surr: 4-Bromofluorobenzene	87.0	70-130		%Rec	1	4/22/2023 3:51:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	4/21/2023 11:32:52 PM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-06 0'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 9:20:00 AM

Lab ID: 2304732-014

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/21/2023 5:47:03 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/21/2023 5:47:03 PM
Surr: DNOP	114	69-147		%Rec	1	4/21/2023 5:47:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/22/2023 4:12:00 AM
Surr: BFB	89.9	37.7-212		%Rec	1	4/22/2023 4:12:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	4/22/2023 4:12:00 AM
Toluene	ND	0.047		mg/Kg	1	4/22/2023 4:12:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	4/22/2023 4:12:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	4/22/2023 4:12:00 AM
Surr: 4-Bromofluorobenzene	86.4	70-130		%Rec	1	4/22/2023 4:12:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	4/22/2023 12:34:55 AM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-06 2'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 9:25:00 AM

Lab ID: 2304732-015

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/21/2023 5:57:52 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/21/2023 5:57:52 PM
Surr: DNOP	95.4	69-147		%Rec	1	4/21/2023 5:57:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/22/2023 4:34:00 AM
Surr: BFB	89.1	37.7-212		%Rec	1	4/22/2023 4:34:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/22/2023 4:34:00 AM
Toluene	ND	0.050		mg/Kg	1	4/22/2023 4:34:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/22/2023 4:34:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	4/22/2023 4:34:00 AM
Surr: 4-Bromofluorobenzene	84.7	70-130		%Rec	1	4/22/2023 4:34:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	4/22/2023 12:47:21 AM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-07 0'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 9:40:00 AM

Lab ID: 2304732-016

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/21/2023 6:08:43 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/21/2023 6:08:43 PM
Surr: DNOP	132	69-147		%Rec	1	4/21/2023 6:08:43 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/22/2023 4:55:00 AM
Surr: BFB	88.5	37.7-212		%Rec	1	4/22/2023 4:55:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/22/2023 4:55:00 AM
Toluene	ND	0.049		mg/Kg	1	4/22/2023 4:55:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/22/2023 4:55:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	4/22/2023 4:55:00 AM
Surr: 4-Bromofluorobenzene	85.4	70-130		%Rec	1	4/22/2023 4:55:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	4/22/2023 12:59:45 AM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-07 2'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 9:45:00 AM

Lab ID: 2304732-017

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/21/2023 6:19:45 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/21/2023 6:19:45 PM
Surr: DNOP	103	69-147		%Rec	1	4/21/2023 6:19:45 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/22/2023 5:17:00 AM
Surr: BFB	91.1	37.7-212		%Rec	1	4/22/2023 5:17:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/22/2023 5:17:00 AM
Toluene	ND	0.048		mg/Kg	1	4/22/2023 5:17:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/22/2023 5:17:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	4/22/2023 5:17:00 AM
Surr: 4-Bromofluorobenzene	87.9	70-130		%Rec	1	4/22/2023 5:17:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	59		mg/Kg	20	4/22/2023 1:12:10 AM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-08 0'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 10:00:00 AM

Lab ID: 2304732-018

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	4/21/2023 6:30:47 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/21/2023 6:30:47 PM
Surr: DNOP	94.5	69-147		%Rec	1	4/21/2023 6:30:47 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/22/2023 5:38:00 AM
Surr: BFB	90.5	37.7-212		%Rec	1	4/22/2023 5:38:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/22/2023 5:38:00 AM
Toluene	ND	0.049		mg/Kg	1	4/22/2023 5:38:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/22/2023 5:38:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/22/2023 5:38:00 AM
Surr: 4-Bromofluorobenzene	87.3	70-130		%Rec	1	4/22/2023 5:38:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	59		mg/Kg	20	4/22/2023 1:24:35 AM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-08 2'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 10:05:00 AM

Lab ID: 2304732-019

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/21/2023 6:52:33 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/21/2023 6:52:33 PM
Surr: DNOP	137	69-147		%Rec	1	4/21/2023 6:52:33 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/22/2023 6:22:00 AM
Surr: BFB	89.8	37.7-212		%Rec	1	4/22/2023 6:22:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/22/2023 6:22:00 AM
Toluene	ND	0.050		mg/Kg	1	4/22/2023 6:22:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/22/2023 6:22:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/22/2023 6:22:00 AM
Surr: 4-Bromofluorobenzene	85.7	70-130		%Rec	1	4/22/2023 6:22:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	4/22/2023 1:37:00 AM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-09 0'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 10:10:00 AM

Lab ID: 2304732-020

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/21/2023 7:03:34 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/21/2023 7:03:34 PM
Surr: DNOP	97.9	69-147		%Rec	1	4/21/2023 7:03:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/22/2023 6:43:00 AM
Surr: BFB	92.9	37.7-212		%Rec	1	4/22/2023 6:43:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/22/2023 6:43:00 AM
Toluene	ND	0.049		mg/Kg	1	4/22/2023 6:43:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/22/2023 6:43:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/22/2023 6:43:00 AM
Surr: 4-Bromofluorobenzene	88.0	70-130		%Rec	1	4/22/2023 6:43:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	4/22/2023 1:49:24 AM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-09 2'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 10:15:00 AM

Lab ID: 2304732-021

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/21/2023 7:14:34 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/21/2023 7:14:34 PM
Surr: DNOP	118	69-147		%Rec	1	4/21/2023 7:14:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/22/2023 7:05:00 AM
Surr: BFB	91.0	37.7-212		%Rec	1	4/22/2023 7:05:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/22/2023 7:05:00 AM
Toluene	ND	0.049		mg/Kg	1	4/22/2023 7:05:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/22/2023 7:05:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/22/2023 7:05:00 AM
Surr: 4-Bromofluorobenzene	85.6	70-130		%Rec	1	4/22/2023 7:05:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	4/22/2023 2:01:48 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 Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-10 0'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 10:35:00 AM

Lab ID: 2304732-022

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	4/21/2023 7:25:33 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/21/2023 7:25:33 PM
Surr: DNOP	101	69-147		%Rec	1	4/21/2023 7:25:33 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/22/2023 7:26:00 AM
Surr: BFB	91.7	37.7-212		%Rec	1	4/22/2023 7:26:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/22/2023 7:26:00 AM
Toluene	ND	0.049		mg/Kg	1	4/22/2023 7:26:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/22/2023 7:26:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/22/2023 7:26:00 AM
Surr: 4-Bromofluorobenzene	88.2	70-130		%Rec	1	4/22/2023 7:26:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	4/22/2023 2:14:12 AM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-10 2'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 10:40:00 AM

Lab ID: 2304732-023

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/21/2023 7:36:31 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/21/2023 7:36:31 PM
Surr: DNOP	115	69-147		%Rec	1	4/21/2023 7:36:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/22/2023 7:48:00 AM
Surr: BFB	93.1	37.7-212		%Rec	1	4/22/2023 7:48:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/22/2023 7:48:00 AM
Toluene	ND	0.048		mg/Kg	1	4/22/2023 7:48:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/22/2023 7:48:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	4/22/2023 7:48:00 AM
Surr: 4-Bromofluorobenzene	86.3	70-130		%Rec	1	4/22/2023 7:48:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JTT
Chloride	ND	60		mg/Kg	20	4/22/2023 2:26:36 AM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-11 0'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 10:55:00 AM

Lab ID: 2304732-024

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/21/2023 7:58:13 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/21/2023 7:58:13 PM
Surr: DNOP	94.0	69-147		%Rec	1	4/21/2023 7:58:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/22/2023 8:09:00 AM
Surr: BFB	92.2	37.7-212		%Rec	1	4/22/2023 8:09:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/22/2023 8:09:00 AM
Toluene	ND	0.049		mg/Kg	1	4/22/2023 8:09:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/22/2023 8:09:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	4/22/2023 8:09:00 AM
Surr: 4-Bromofluorobenzene	85.9	70-130		%Rec	1	4/22/2023 8:09:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/24/2023 12:03:02 PM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-11 2'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 11:00:00 AM

Lab ID: 2304732-025

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	4/21/2023 8:09:08 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/21/2023 8:09:08 PM
Surr: DNOP	125	69-147		%Rec	1	4/21/2023 8:09:08 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/22/2023 8:31:00 AM
Surr: BFB	87.8	37.7-212		%Rec	1	4/22/2023 8:31:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/22/2023 8:31:00 AM
Toluene	ND	0.049		mg/Kg	1	4/22/2023 8:31:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/22/2023 8:31:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/22/2023 8:31:00 AM
Surr: 4-Bromofluorobenzene	86.1	70-130		%Rec	1	4/22/2023 8:31:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/24/2023 12:15:27 PM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-12 0'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 11:10:00 AM

Lab ID: 2304732-026

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/21/2023 8:20:03 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/21/2023 8:20:03 PM
Surr: DNOP	93.1	69-147		%Rec	1	4/21/2023 8:20:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/22/2023 8:52:00 AM
Surr: BFB	90.4	37.7-212		%Rec	1	4/22/2023 8:52:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.025		mg/Kg	1	4/22/2023 8:52:00 AM
Toluene	ND	0.050		mg/Kg	1	4/22/2023 8:52:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/22/2023 8:52:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	4/22/2023 8:52:00 AM
Surr: 4-Bromofluorobenzene	87.6	70-130		%Rec	1	4/22/2023 8:52:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	86	60		mg/Kg	20	4/24/2023 12:27:52 PM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-12 2'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 11:15:00 AM

Lab ID: 2304732-027

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/21/2023 8:30:56 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/21/2023 8:30:56 PM
Surr: DNOP	91.9	69-147		%Rec	1	4/21/2023 8:30:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/22/2023 9:14:00 AM
Surr: BFB	89.7	37.7-212		%Rec	1	4/22/2023 9:14:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.024		mg/Kg	1	4/22/2023 9:14:00 AM
Toluene	ND	0.048		mg/Kg	1	4/22/2023 9:14:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/22/2023 9:14:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/22/2023 9:14:00 AM
Surr: 4-Bromofluorobenzene	86.7	70-130		%Rec	1	4/22/2023 9:14:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	190	60		mg/Kg	20	4/24/2023 12:40:17 PM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-13 0'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 11:35:00 AM

Lab ID: 2304732-028

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	4/21/2023 8:41:48 PM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	4/21/2023 8:41:48 PM
Surr: DNOP	117	69-147		%Rec	1	4/21/2023 8:41:48 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/22/2023 9:36:00 AM
Surr: BFB	92.4	37.7-212		%Rec	1	4/22/2023 9:36:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.023		mg/Kg	1	4/22/2023 9:36:00 AM
Toluene	ND	0.046		mg/Kg	1	4/22/2023 9:36:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	4/22/2023 9:36:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	4/22/2023 9:36:00 AM
Surr: 4-Bromofluorobenzene	85.2	70-130		%Rec	1	4/22/2023 9:36:00 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/24/2023 12:52:41 PM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-13 2'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 11:40:00 AM

Lab ID: 2304732-029

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/21/2023 9:14:02 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/21/2023 9:14:02 PM
Surr: DNOP	89.6	69-147		%Rec	1	4/21/2023 9:14:02 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/21/2023 5:37:11 AM
Surr: BFB	97.6	37.7-212		%Rec	1	4/21/2023 5:37:11 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	4/21/2023 5:37:11 AM
Toluene	ND	0.049		mg/Kg	1	4/21/2023 5:37:11 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/21/2023 5:37:11 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/21/2023 5:37:11 AM
Surr: 4-Bromofluorobenzene	96.3	70-130		%Rec	1	4/21/2023 5:37:11 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/24/2023 1:05:06 PM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-14 0'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 11:55:00 AM

Lab ID: 2304732-030

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/21/2023 9:46:12 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/21/2023 9:46:12 PM
Surr: DNOP	85.7	69-147		%Rec	1	4/21/2023 9:46:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/21/2023 6:00:32 AM
Surr: BFB	104	37.7-212		%Rec	1	4/21/2023 6:00:32 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	4/21/2023 6:00:32 AM
Toluene	ND	0.048		mg/Kg	1	4/21/2023 6:00:32 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/21/2023 6:00:32 AM
Xylenes, Total	ND	0.095		mg/Kg	1	4/21/2023 6:00:32 AM
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	4/21/2023 6:00:32 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/24/2023 1:17:31 PM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-14 2'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 12:00:00 PM

Lab ID: 2304732-031

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/21/2023 9:56:54 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/21/2023 9:56:54 PM
Surr: DNOP	88.1	69-147		%Rec	1	4/21/2023 9:56:54 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/21/2023 6:23:57 AM
Surr: BFB	108	37.7-212		%Rec	1	4/21/2023 6:23:57 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	4/21/2023 6:23:57 AM
Toluene	ND	0.050		mg/Kg	1	4/21/2023 6:23:57 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/21/2023 6:23:57 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/21/2023 6:23:57 AM
Surr: 4-Bromofluorobenzene	99.3	70-130		%Rec	1	4/21/2023 6:23:57 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	92	60		mg/Kg	20	4/24/2023 1:29:55 PM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-15 0'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 12:10:00 PM

Lab ID: 2304732-032

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/21/2023 10:07:34 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/21/2023 10:07:34 PM
Surr: DNOP	93.7	69-147		%Rec	1	4/21/2023 10:07:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/21/2023 6:47:22 AM
Surr: BFB	103	37.7-212		%Rec	1	4/21/2023 6:47:22 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	4/21/2023 6:47:22 AM
Toluene	ND	0.047		mg/Kg	1	4/21/2023 6:47:22 AM
Ethylbenzene	ND	0.047		mg/Kg	1	4/21/2023 6:47:22 AM
Xylenes, Total	ND	0.095		mg/Kg	1	4/21/2023 6:47:22 AM
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	4/21/2023 6:47:22 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/24/2023 11:00:58 AM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-15 2'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 12:15:00 PM

Lab ID: 2304732-033

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/21/2023 10:18:12 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/21/2023 10:18:12 PM
Surr: DNOP	96.7	69-147		%Rec	1	4/21/2023 10:18:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/21/2023 7:10:43 AM
Surr: BFB	95.2	37.7-212		%Rec	1	4/21/2023 7:10:43 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	4/21/2023 7:10:43 AM
Toluene	ND	0.049		mg/Kg	1	4/21/2023 7:10:43 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/21/2023 7:10:43 AM
Xylenes, Total	ND	0.098		mg/Kg	1	4/21/2023 7:10:43 AM
Surr: 4-Bromofluorobenzene	96.0	70-130		%Rec	1	4/21/2023 7:10:43 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	120	60		mg/Kg	20	4/24/2023 2:07:09 PM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-16 0'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 12:25:00 PM

Lab ID: 2304732-034

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/21/2023 10:28:54 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/21/2023 10:28:54 PM
Surr: DNOP	87.9	69-147		%Rec	1	4/21/2023 10:28:54 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/21/2023 7:34:07 AM
Surr: BFB	92.2	37.7-212		%Rec	1	4/21/2023 7:34:07 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	4/21/2023 7:34:07 AM
Toluene	ND	0.048		mg/Kg	1	4/21/2023 7:34:07 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/21/2023 7:34:07 AM
Xylenes, Total	ND	0.095		mg/Kg	1	4/21/2023 7:34:07 AM
Surr: 4-Bromofluorobenzene	96.6	70-130		%Rec	1	4/21/2023 7:34:07 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/24/2023 2:44:24 PM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order **2304732**

Date Reported: **4/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.

Client Sample ID: BH23-16 2'

Project: Apache 25 Federal 009

Collection Date: 4/15/2023 12:30:00 PM

Lab ID: 2304732-035

Matrix: SOIL

Received Date: 4/18/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/21/2023 10:39:34 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/21/2023 10:39:34 PM
Surr: DNOP	92.9	69-147		%Rec	1	4/21/2023 10:39:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/21/2023 7:57:35 AM
Surr: BFB	99.1	37.7-212		%Rec	1	4/21/2023 7:57:35 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	4/21/2023 7:57:35 AM
Toluene	ND	0.048		mg/Kg	1	4/21/2023 7:57:35 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/21/2023 7:57:35 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/21/2023 7:57:35 AM
Surr: 4-Bromofluorobenzene	97.4	70-130		%Rec	1	4/21/2023 7:57:35 AM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	93	60		mg/Kg	20	4/24/2023 2:56:49 PM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Above Quantitation Range/Estimated Value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of standard limits. If undiluted results may be estimated.	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304732

28-Apr-23

Client: Vertex Resources Services, Inc.

Project: Apache 25 Federal 009

Sample ID: MB-74453	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 74453	RunNo: 96218								
Prep Date: 4/20/2023	Analysis Date: 4/20/2023	SeqNo: 3484071	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-74453	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 74453	RunNo: 96218								
Prep Date: 4/20/2023	Analysis Date: 4/20/2023	SeqNo: 3484072	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.5	90	110			

Sample ID: MB-74472	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 74472	RunNo: 96218								
Prep Date: 4/20/2023	Analysis Date: 4/21/2023	SeqNo: 3484101	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-74472	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 74472	RunNo: 96218								
Prep Date: 4/20/2023	Analysis Date: 4/21/2023	SeqNo: 3484102	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.6	90	110			

Sample ID: MB-74501	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 74501	RunNo: 96239								
Prep Date: 4/21/2023	Analysis Date: 4/21/2023	SeqNo: 3484759	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-74501	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 74501	RunNo: 96239								
Prep Date: 4/21/2023	Analysis Date: 4/21/2023	SeqNo: 3484760	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.2	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304732

28-Apr-23

Client: Vertex Resources Services, Inc.

Project: Apache 25 Federal 009

Sample ID: MB-74509	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 74509	RunNo: 96264								
Prep Date: 4/24/2023	Analysis Date: 4/24/2023	SeqNo: 3486650	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-74509	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 74509	RunNo: 96264								
Prep Date: 4/24/2023	Analysis Date: 4/24/2023	SeqNo: 3486651	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.7	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304732

28-Apr-23

Client: Vertex Resources Services, Inc.

Project: Apache 25 Federal 009

Sample ID: MB-74430	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 74430	RunNo: 96162								
Prep Date: 4/19/2023	Analysis Date: 4/20/2023	SeqNo: 3482718	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.9		10.00		79.3	69	147			

Sample ID: LCS-74430	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 74430	RunNo: 96162								
Prep Date: 4/19/2023	Analysis Date: 4/20/2023	SeqNo: 3482719	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.9	61.9	130			
Surr: DNOP	4.8		5.000		96.6	69	147			

Sample ID: MB-74418	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 74418	RunNo: 96162								
Prep Date: 4/19/2023	Analysis Date: 4/20/2023	SeqNo: 3482949	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		104	69	147			

Sample ID: LCS-74418	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 74418	RunNo: 96162								
Prep Date: 4/19/2023	Analysis Date: 4/20/2023	SeqNo: 3483127	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.0		5.000		79.1	69	147			

Sample ID: LCS-74445	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 74445	RunNo: 96222								
Prep Date: 4/20/2023	Analysis Date: 4/21/2023	SeqNo: 3484229	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.0	61.9	130			
Surr: DNOP	4.8		5.000		96.9	69	147			

Sample ID: LCS-74452	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 74452	RunNo: 96222								
Prep Date: 4/20/2023	Analysis Date: 4/21/2023	SeqNo: 3484230	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	10	50.00	0	78.3	61.9	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304732

28-Apr-23

Client: Vertex Resources Services, Inc.

Project: Apache 25 Federal 009

Sample ID: LCS-74452	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 74452		RunNo: 96222							
Prep Date: 4/20/2023	Analysis Date: 4/21/2023		SeqNo: 3484230		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		92.3	69	147			

Sample ID: LCS-74475	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 74475		RunNo: 96222							
Prep Date: 4/21/2023	Analysis Date: 4/21/2023		SeqNo: 3484233		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.8		5.000		96.6	69	147			

Sample ID: MB-74445	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 74445		RunNo: 96222							
Prep Date: 4/20/2023	Analysis Date: 4/21/2023		SeqNo: 3484234		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		107	69	147			

Sample ID: MB-74452	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 74452		RunNo: 96222							
Prep Date: 4/20/2023	Analysis Date: 4/21/2023		SeqNo: 3484235		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.3		10.00		93.2	69	147			

Sample ID: MB-74475	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 74475		RunNo: 96222							
Prep Date: 4/21/2023	Analysis Date: 4/21/2023		SeqNo: 3484238		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.8		10.00		88.3	69	147			

Sample ID: 2304732-009AMS	SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: BH23-04 2'	Batch ID: 74445		RunNo: 96222							
Prep Date: 4/20/2023	Analysis Date: 4/21/2023		SeqNo: 3485122		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	66	9.3	46.30	0	143	54.2	135			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 Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304732

28-Apr-23

Client: Vertex Resources Services, Inc.

Project: Apache 25 Federal 009

Sample ID: 2304732-009AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BH23-04 2'	Batch ID: 74445	RunNo: 96222								
Prep Date: 4/20/2023	Analysis Date: 4/21/2023	SeqNo: 3485122	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.2		4.630		178	69	147			S

Sample ID: 2304732-009AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BH23-04 2'	Batch ID: 74445	RunNo: 96222								
Prep Date: 4/20/2023	Analysis Date: 4/21/2023	SeqNo: 3485123	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.9	49.50	0	90.8	54.2	135	38.3	29.2	R
Surr: DNOP	4.6		4.950		92.5	69	147	0	0	

Sample ID: 2304732-029AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BH23-13 2'	Batch ID: 74452	RunNo: 96222								
Prep Date: 4/20/2023	Analysis Date: 4/21/2023	SeqNo: 3485144	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.7	48.36	0	93.0	54.2	135			
Surr: DNOP	6.1		4.836		126	69	147			

Sample ID: 2304732-029AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BH23-13 2'	Batch ID: 74452	RunNo: 96222								
Prep Date: 4/20/2023	Analysis Date: 4/21/2023	SeqNo: 3485145	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.6	47.89	0	93.4	54.2	135	0.529	29.2	
Surr: DNOP	6.6		4.789		137	69	147	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304732

28-Apr-23

Client: Vertex Resources Services, Inc.

Project: Apache 25 Federal 009

Sample ID: ics-74410	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 74410		RunNo: 96201							
Prep Date: 4/19/2023	Analysis Date: 4/20/2023		SeqNo: 3483284		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	86.6	70	130			
Surr: BFB	2000		1000		195	37.7	212			

Sample ID: mb-74410	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 74410		RunNo: 96201							
Prep Date: 4/19/2023	Analysis Date: 4/20/2023		SeqNo: 3483285		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	900		1000		89.6	37.7	212			

Sample ID: ics-74401	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 74401		RunNo: 96201							
Prep Date: 4/18/2023	Analysis Date: 4/20/2023		SeqNo: 3483312		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2000		1000		201	37.7	212			

Sample ID: mb-74401	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 74401		RunNo: 96201							
Prep Date: 4/18/2023	Analysis Date: 4/20/2023		SeqNo: 3483313		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	900		1000		90.4	37.7	212			

Sample ID: ics-74436	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 74436		RunNo: 96214							
Prep Date: 4/19/2023	Analysis Date: 4/20/2023		SeqNo: 3483918		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	86.7	70	130			
Surr: BFB	4800		1000		480	37.7	212			S

Sample ID: mb-74436	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 74436		RunNo: 96214							
Prep Date: 4/19/2023	Analysis Date: 4/20/2023		SeqNo: 3483920		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	37.7	212			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304732

28-Apr-23

Client: Vertex Resources Services, Inc.

Project: Apache 25 Federal 009

Sample ID: 2304732-029ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: BH23-13 2'	Batch ID: 74436	RunNo: 96214								
Prep Date: 4/19/2023	Analysis Date: 4/21/2023	SeqNo: 3483954	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.49	0	85.2	70	130			
Surr: BFB	4900		979.4		498	37.7	212			S

Sample ID: 2304732-029amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: BH23-13 2'	Batch ID: 74436	RunNo: 96214								
Prep Date: 4/19/2023	Analysis Date: 4/21/2023	SeqNo: 3483955	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.56	0	84.3	70	130	0.744	20	
Surr: BFB	5200		982.3		525	37.7	212	0	0	S

Sample ID: 2.5ug gro lcs	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: GS96225	RunNo: 96225								
Prep Date:	Analysis Date: 4/21/2023	SeqNo: 3484284	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2200		1000		222	37.7	212			S

Sample ID: mb	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: GS96225	RunNo: 96225								
Prep Date:	Analysis Date: 4/21/2023	SeqNo: 3484285	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		101	37.7	212			

Sample ID: lcs-74431	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 74431	RunNo: 96225								
Prep Date: 4/19/2023	Analysis Date: 4/21/2023	SeqNo: 3485466	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	88.4	70	130			
Surr: BFB	2000		1000		197	37.7	212			

Sample ID: mb-74431	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 74431	RunNo: 96225								
Prep Date: 4/19/2023	Analysis Date: 4/22/2023	SeqNo: 3485467	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	900		1000		90.1	37.7	212			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304732

28-Apr-23

Client: Vertex Resources Services, Inc.

Project: Apache 25 Federal 009

Sample ID: 2304732-009ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: BH23-04 2'	Batch ID: 74431	RunNo: 96225								
Prep Date: 4/19/2023	Analysis Date: 4/22/2023	SeqNo: 3485469	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.27	0	86.4	70	130			
Surr: BFB	1900		970.9		199	37.7	212			

Sample ID: 2304732-009amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: BH23-04 2'	Batch ID: 74431	RunNo: 96225								
Prep Date: 4/19/2023	Analysis Date: 4/22/2023	SeqNo: 3485470	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.9	24.30	0	84.2	70	130	2.44	20	
Surr: BFB	1900		971.8		199	37.7	212	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304732

28-Apr-23

Client: Vertex Resources Services, Inc.

Project: Apache 25 Federal 009

Sample ID: ics-74401	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 74401		RunNo: 96201							
Prep Date: 4/18/2023	Analysis Date: 4/20/2023		SeqNo: 3483335				Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.88		1.000		88.2	70	130			

Sample ID: mb-74401	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 74401		RunNo: 96201							
Prep Date: 4/18/2023	Analysis Date: 4/20/2023		SeqNo: 3483336				Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.85		1.000		85.1	70	130			

Sample ID: ics-74410	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 74410		RunNo: 96201							
Prep Date: 4/19/2023	Analysis Date: 4/20/2023		SeqNo: 3483359				Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	84.7	80	120			
Toluene	0.85	0.050	1.000	0	84.7	80	120			
Ethylbenzene	0.83	0.050	1.000	0	83.0	80	120			
Xylenes, Total	2.5	0.10	3.000	0	82.2	80	120			
Surr: 4-Bromofluorobenzene	0.87		1.000		86.9	70	130			

Sample ID: mb-74410	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 74410		RunNo: 96201							
Prep Date: 4/19/2023	Analysis Date: 4/20/2023		SeqNo: 3483360				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	0.85		1.000		85.1	70	130			

Sample ID: LCS-74436	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 74436		RunNo: 96214							
Prep Date: 4/19/2023	Analysis Date: 4/20/2023		SeqNo: 3484000				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	88.8	80	120			
Toluene	0.89	0.050	1.000	0	89.5	80	120			
Ethylbenzene	0.91	0.050	1.000	0	90.7	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.5	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304732

28-Apr-23

Client: Vertex Resources Services, Inc.

Project: Apache 25 Federal 009

Sample ID: LCS-74436	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 74436		RunNo: 96214							
Prep Date: 4/19/2023	Analysis Date: 4/20/2023		SeqNo: 3484000		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.99		1.000		99.0	70	130			

Sample ID: mb-74436	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 74436		RunNo: 96214							
Prep Date: 4/19/2023	Analysis Date: 4/20/2023		SeqNo: 3484002		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	0.99		1.000		98.8	70	130			

Sample ID: 2304732-030ams	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: BH23-14 0'	Batch ID: 74436		RunNo: 96214							
Prep Date: 4/19/2023	Analysis Date: 4/21/2023		SeqNo: 3484009		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.024	0.9597	0	87.8	68.8	120			
Toluene	0.87	0.048	0.9597	0.01689	89.0	73.6	124			
Ethylbenzene	0.88	0.048	0.9597	0	92.2	72.7	129			
Xylenes, Total	2.7	0.096	2.879	0	93.3	75.7	126			
Surr: 4-Bromofluorobenzene	0.95		0.9597		98.9	70	130			

Sample ID: 2304732-030amsd	SampType: MSD		TestCode: EPA Method 8021B: Volatiles							
Client ID: BH23-14 0'	Batch ID: 74436		RunNo: 96214							
Prep Date: 4/19/2023	Analysis Date: 4/21/2023		SeqNo: 3484010		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.024	0.9506	0	90.1	68.8	120	1.69	20	
Toluene	0.89	0.048	0.9506	0.01689	91.3	73.6	124	1.57	20	
Ethylbenzene	0.90	0.048	0.9506	0	95.0	72.7	129	2.12	20	
Xylenes, Total	2.7	0.095	2.852	0	95.9	75.7	126	1.75	20	
Surr: 4-Bromofluorobenzene	0.95		0.9506		99.8	70	130	0	0	

Sample ID: 100ng btex lcs	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: BS96225		RunNo: 96225							
Prep Date:	Analysis Date: 4/21/2023		SeqNo: 3484287		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304732

28-Apr-23

Client: Vertex Resources Services, Inc.

Project: Apache 25 Federal 009

Sample ID: 100ng btex lcs	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: BS96225		RunNo: 96225							
Prep Date:	Analysis Date: 4/21/2023		SeqNo: 3484287		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.98		1.000		97.9	70	130			

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: BS96225		RunNo: 96225							
Prep Date:	Analysis Date: 4/21/2023		SeqNo: 3484288		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		95.2	70	130			

Sample ID: lcs-74431	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 74431		RunNo: 96225							
Prep Date: 4/19/2023	Analysis Date: 4/22/2023		SeqNo: 3485487		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	0.86	0.050	1.000	0	85.5	80	120			
Ethylbenzene	0.84	0.050	1.000	0	83.8	80	120			
Xylenes, Total	2.5	0.10	3.000	0	82.7	80	120			
Surr: 4-Bromofluorobenzene	0.90		1.000		89.8	70	130			

Sample ID: mb-74431	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 74431		RunNo: 96225							
Prep Date: 4/19/2023	Analysis Date: 4/22/2023		SeqNo: 3485488		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.86		1.000		85.7	70	130			

Sample ID: 2304732-010ams	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: BH23-04 4'	Batch ID: 74431		RunNo: 96225							
Prep Date: 4/19/2023	Analysis Date: 4/22/2023		SeqNo: 3485491		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.024	0.9560	0	85.6	68.8	120			
Toluene	0.83	0.048	0.9560	0	86.4	73.6	124			
Ethylbenzene	0.81	0.048	0.9560	0	85.2	72.7	129			
Xylenes, Total	2.4	0.096	2.868	0	84.3	75.7	126			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304732

28-Apr-23

Client: Vertex Resources Services, Inc.

Project: Apache 25 Federal 009

Sample ID: 2304732-010ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: BH23-04 4'	Batch ID: 74431	RunNo: 96225								
Prep Date: 4/19/2023	Analysis Date: 4/22/2023	SeqNo: 3485491	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.85		0.9560		88.5	70	130			

Sample ID: 2304732-010amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: BH23-04 4'	Batch ID: 74431	RunNo: 96225								
Prep Date: 4/19/2023	Analysis Date: 4/22/2023	SeqNo: 3485492	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.024	0.9524	0	85.7	68.8	120	0.321	20	
Toluene	0.83	0.048	0.9524	0	87.2	73.6	124	0.549	20	
Ethylbenzene	0.83	0.048	0.9524	0	87.0	72.7	129	1.69	20	
Xylenes, Total	2.5	0.095	2.857	0	86.3	75.7	126	1.98	20	
Surr: 4-Bromofluorobenzene	0.84		0.9524		88.2	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit



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

Sample Log-In Check List

Client Name: **Vertex Resources Services, Inc.**

Work Order Number: **2304732**

RcptNo: **1**

Received By: **Juan Rojas**

4/18/2023 7:30:00 AM

Juan Rojas

Completed By: **Desiree Dominguez**

4/18/2023 10:40:32 AM

DD

Reviewed By: *JR 4-18-23*

Chain of Custody

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

Log In

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

of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: *JR 4/18/23*

Special Handling (if applicable)

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

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

16. Additional remarks:
Client information incomplete/not provided on COC. -DAD 4/18/23

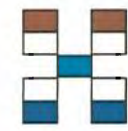
17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Not Present	Morty		

Chain-of-Custody Record

Client: **Vertex**
 (direct bill to Devon)
 Mailing Address:
 Phone #:
 email or Fax#:
 QA/QC Package:
 Standard Level 4 (Full Validation)
 Accreditation: Az Compliance
 NELAC Other _____
 EDD (Type) _____

Turn-Around Time:
 Standard Rush 5 Day
 Project Name:
Apache 25 Federal #009
 Project #:
22E-02816-29
 Project Manager:
 Kent Stallings
kstallings@vertex.ca
 Sampler: L. Pullman
 On Ice: Yes No
 # of Coolers: 1 *Morty*
 Cooler Temp (including CF): 1.3-0=1.3



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)
04/14/23	13:35	Soil	BH23-02 0'	1, 4oz jar		- 001	X	X					X			
04/14/23	13:40	Soil	BH23-02 2'	1, 4oz jar		- 002	X	X					X			
04/14/23	13:45	Soil	BH23-02 4'	1, 4oz jar		- 003	X	X					X			
04/14/23	13:50	Soil	BH23-02 6'	1, 4oz jar		- 004	X	X					X			
04/14/23	16:00	Soil	BH23-03 0'	1, 4oz jar		- 005	X	X					X			
04/14/23	16:10	Soil	BH23-03 2'	1, 4oz jar		- 006	X	X					X			
04/14/23	16:20	Soil	BH23-03 4'	1, 4oz jar		- 007	X	X					X			
04/15/23	8:30	Soil	BH23-04 0'	1, 4oz jar		- 008	X	X					X			
04/15/23	8:35	Soil	BH23-04 2'	1, 4oz jar		- 009	X	X					X			
04/15/23	8:40	Soil	BH23-04 4'	1, 4oz jar		- 010	X	X					X			
04/15/23	8:55	Soil	BH23-05 0'	1, 4oz jar		- 011	X	X					X			
04/15/23	9:00	Soil	BH23-05 2'	1, 4oz jar		- 012	X	X					X			

Date: 4-17-23 Time: 0730 Relinquished by: *[Signature]*
 Received by: *[Signature]* Via: _____ Date: 4/17/23 Time: 0700

Date: 4/17/23 Time: 1900 Relinquished by: *[Signature]*
 Received by: *[Signature]* Via: router Date: 4/18/23 Time: 7:30

Remarks:
 Direct bill to Devon, Dale Woodall
 cc. kstallings@vertex.ca for Final Report

1/3

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 Devon)

Mailing Address:

Phone #:

email or Fax#:

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

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

Turn-Around Time:
 Standard Rush 5 Day

Project Name:
Apache 25 Federal #009

Project #:
22E-02816-29

Project Manager:
 Kent Stallings
kstallings@vertex.ca

Sampler: **L. Pullman**

On Ice: Yes No

of Coolers: 1 Motly

Cooler Temp (including CF): 1-3-0=1.3



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.	STEX	MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)								
04/15/23	11:00	Soil	BH23-11 2'	1, 4oz jar		-025	X	X						X											
04/15/23	11:10	Soil	BH23-12 0'	1, 4oz jar		-026	X	X						X											
04/15/23	11:15	Soil	BH23-12 2'	1, 4oz jar		-027	X	X						X											
04/15/23	11:35	Soil	BH23-13 0'	1, 4oz jar		-028	X	X						X											
04/15/23	11:40	Soil	BH23-13 2'	1, 4oz jar		-029	X	X						X											
04/15/23	11:55	Soil	BH23-14 0'	1, 4oz jar		-030	X	X						X											
04/15/23	12:00	Soil	BH23-14 2'	1, 4oz jar		-031	X	X						X											
04/15/23	12:10	Soil	BH23-15 0'	1, 4oz jar		-032	X	X						X											
04/15/23	12:15	Soil	BH23-15 2'	1, 4oz jar		-033	X	X						X											
04/15/23	12:25	Soil	BH23-16 0'	1, 4oz jar		-034	X	X						X											
04/15/23	12:30	Soil	BH23-16 2'	1, 4oz jar		-035	X	X						X											

Date: <u>4/7/23</u>	Time: <u>07:00</u>	Relinquished by: <u>L. Pullman</u>	Received by: <u>[Signature]</u>	Via:	Date: <u>4/17/23</u>	Time: <u>07:00</u>	Remarks: Direct bill to Devon, Dale Woodall cc. kstallings@vertex.ca for Final Report
Date: <u>4/17/23</u>	Time: <u>19:00</u>	Relinquished by: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Via:	Date: <u>4/18/23</u>	Time: <u>7:30</u>	

3/3

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.



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Kent Stallings
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 6/21/2025 10:53:38 AM

JOB DESCRIPTION

Apache 25 Federal #009

JOB NUMBER

885-26815-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109



Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



Generated
6/21/2025 10:53:38 AM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Apache 25 Federal #009

Laboratory Job ID: 885-26815-1



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Definitions/Glossary

Client: Vertex
Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Apache 25 Federal #009

Job ID: 885-26815-1

Job ID: 885-26815-1

Eurofins Albuquerque

Job Narrative 885-26815-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 6/14/2025 7:53 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.3°C.

Gasoline Range Organics

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Albuquerque



Client Sample Results

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

Client Sample ID: BH-25-17 0'

Lab Sample ID: 885-26815-1

Date Collected: 06/12/25 10:15

Matrix: Solid

Date Received: 06/14/25 07:53

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9	mg/Kg		06/16/25 12:34	06/18/25 14:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		15 - 150			06/16/25 12:34	06/18/25 14:40	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		06/16/25 12:34	06/18/25 14:40	1
Ethylbenzene	ND		0.049	mg/Kg		06/16/25 12:34	06/18/25 14:40	1
Toluene	ND		0.049	mg/Kg		06/16/25 12:34	06/18/25 14:40	1
Xylenes, Total	ND		0.097	mg/Kg		06/16/25 12:34	06/18/25 14:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		15 - 150			06/16/25 12:34	06/18/25 14:40	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.8	mg/Kg		06/17/25 09:57	06/18/25 02:48	1
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		06/17/25 09:57	06/18/25 02:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	109		62 - 134			06/17/25 09:57	06/18/25 02:48	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	170		60	mg/Kg		06/16/25 14:30	06/17/25 10:52	20

Client Sample Results

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

Client Sample ID: BH-25-17 1'

Lab Sample ID: 885-26815-2

Date Collected: 06/12/25 10:20

Matrix: Solid

Date Received: 06/14/25 07:53

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9	mg/Kg		06/16/25 14:24	06/19/25 20:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		15 - 150			06/16/25 14:24	06/19/25 20:26	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		06/16/25 14:24	06/19/25 20:26	1
Ethylbenzene	ND		0.049	mg/Kg		06/16/25 14:24	06/19/25 20:26	1
Toluene	ND		0.049	mg/Kg		06/16/25 14:24	06/19/25 20:26	1
Xylenes, Total	ND		0.098	mg/Kg		06/16/25 14:24	06/19/25 20:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		15 - 150			06/16/25 14:24	06/19/25 20:26	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	24		9.8	mg/Kg		06/17/25 09:57	06/18/25 02:59	1
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		06/17/25 09:57	06/18/25 02:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	108		62 - 134			06/17/25 09:57	06/18/25 02:59	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	180		60	mg/Kg		06/18/25 09:02	06/18/25 16:11	20

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Client Sample Results

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

Client Sample ID: BH-25-17 2'

Lab Sample ID: 885-26815-3

Date Collected: 06/12/25 10:25

Matrix: Solid

Date Received: 06/14/25 07:53

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9	mg/Kg		06/16/25 14:24	06/19/25 20:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		15 - 150			06/16/25 14:24	06/19/25 20:50	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		06/16/25 14:24	06/19/25 20:50	1
Ethylbenzene	ND		0.049	mg/Kg		06/16/25 14:24	06/19/25 20:50	1
Toluene	ND		0.049	mg/Kg		06/16/25 14:24	06/19/25 20:50	1
Xylenes, Total	ND		0.098	mg/Kg		06/16/25 14:24	06/19/25 20:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		15 - 150			06/16/25 14:24	06/19/25 20:50	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	22		9.8	mg/Kg		06/17/25 09:57	06/18/25 03:10	1
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		06/17/25 09:57	06/18/25 03:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	116		62 - 134			06/17/25 09:57	06/18/25 03:10	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100		60	mg/Kg		06/18/25 09:02	06/18/25 16:52	20

Eurofins Albuquerque

Client Sample Results

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

Client Sample ID: BH-25-17 2.5'

Lab Sample ID: 885-26815-4

Date Collected: 06/12/25 10:40

Matrix: Solid

Date Received: 06/14/25 07:53

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0	mg/Kg		06/16/25 14:24	06/19/25 21:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		15 - 150			06/16/25 14:24	06/19/25 21:13	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		06/16/25 14:24	06/19/25 21:13	1
Ethylbenzene	ND		0.050	mg/Kg		06/16/25 14:24	06/19/25 21:13	1
Toluene	ND		0.050	mg/Kg		06/16/25 14:24	06/19/25 21:13	1
Xylenes, Total	ND		0.10	mg/Kg		06/16/25 14:24	06/19/25 21:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		15 - 150			06/16/25 14:24	06/19/25 21:13	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	10		9.9	mg/Kg		06/17/25 09:57	06/18/25 03:22	1
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		06/17/25 09:57	06/18/25 03:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	116		62 - 134			06/17/25 09:57	06/18/25 03:22	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	330		60	mg/Kg		06/18/25 09:02	06/18/25 17:06	20

Client Sample Results

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

Client Sample ID: BH-25-18 0'

Lab Sample ID: 885-26815-5

Date Collected: 06/12/25 11:00

Matrix: Solid

Date Received: 06/14/25 07:53

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0	mg/Kg		06/16/25 14:24	06/19/25 21:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		15 - 150			06/16/25 14:24	06/19/25 21:37	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		06/16/25 14:24	06/19/25 21:37	1
Ethylbenzene	ND		0.050	mg/Kg		06/16/25 14:24	06/19/25 21:37	1
Toluene	ND		0.050	mg/Kg		06/16/25 14:24	06/19/25 21:37	1
Xylenes, Total	ND		0.099	mg/Kg		06/16/25 14:24	06/19/25 21:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		15 - 150			06/16/25 14:24	06/19/25 21:37	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	16		9.5	mg/Kg		06/17/25 09:57	06/18/25 03:33	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		06/17/25 09:57	06/18/25 03:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	111		62 - 134			06/17/25 09:57	06/18/25 03:33	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	400		60	mg/Kg		06/18/25 09:02	06/18/25 17:19	20

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Client Sample Results

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

Client Sample ID: BH-25-18 1'

Lab Sample ID: 885-26815-6

Date Collected: 06/12/25 11:05

Matrix: Solid

Date Received: 06/14/25 07:53

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0	mg/Kg		06/16/25 14:24	06/19/25 22:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		15 - 150			06/16/25 14:24	06/19/25 22:00	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		06/16/25 14:24	06/19/25 22:00	1
Ethylbenzene	ND		0.050	mg/Kg		06/16/25 14:24	06/19/25 22:00	1
Toluene	ND		0.050	mg/Kg		06/16/25 14:24	06/19/25 22:00	1
Xylenes, Total	ND		0.099	mg/Kg		06/16/25 14:24	06/19/25 22:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		15 - 150			06/16/25 14:24	06/19/25 22:00	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.9	mg/Kg		06/17/25 09:57	06/18/25 03:44	1
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		06/17/25 09:57	06/18/25 03:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	112		62 - 134			06/17/25 09:57	06/18/25 03:44	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	500		60	mg/Kg		06/19/25 15:18	06/19/25 17:41	20

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Client Sample Results

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

Client Sample ID: BH-25-18 2'

Lab Sample ID: 885-26815-7

Date Collected: 06/12/25 11:20

Matrix: Solid

Date Received: 06/14/25 07:53

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9	mg/Kg		06/16/25 14:24	06/19/25 22:24	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		15 - 150			06/16/25 14:24	06/19/25 22:24	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		06/16/25 14:24	06/19/25 22:24	1
Ethylbenzene	ND		0.049	mg/Kg		06/16/25 14:24	06/19/25 22:24	1
Toluene	ND		0.049	mg/Kg		06/16/25 14:24	06/19/25 22:24	1
Xylenes, Total	ND		0.098	mg/Kg		06/16/25 14:24	06/19/25 22:24	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		15 - 150			06/16/25 14:24	06/19/25 22:24	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6	mg/Kg		06/17/25 10:31	06/18/25 05:14	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		06/17/25 10:31	06/18/25 05:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	111		62 - 134			06/17/25 10:31	06/18/25 05:14	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	360		60	mg/Kg		06/19/25 15:18	06/19/25 17:51	20

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QC Sample Results

Client: Vertex
Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-28381/3-A
Matrix: Solid
Analysis Batch: 28515

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28381

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0	mg/Kg		06/16/25 12:34	06/18/25 04:51	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		15 - 150			06/16/25 12:34	06/18/25 04:51	1

Lab Sample ID: LCS 885-28381/1-A
Matrix: Solid
Analysis Batch: 28515

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28381

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	25.0	23.8		mg/Kg		95	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	202		15 - 150				

Lab Sample ID: MB 885-28392/3-A
Matrix: Solid
Analysis Batch: 28653

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28392

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0	mg/Kg		06/16/25 14:17	06/19/25 12:31	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		15 - 150			06/16/25 14:17	06/19/25 12:31	1

Lab Sample ID: LCS 885-28392/1-A
Matrix: Solid
Analysis Batch: 28653

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28392

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	25.0	22.3		mg/Kg		89	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	190		15 - 150				

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-28381/3-A
Matrix: Solid
Analysis Batch: 28516

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28381

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		06/16/25 12:34	06/18/25 04:51	1
Ethylbenzene	ND		0.050	mg/Kg		06/16/25 12:34	06/18/25 04:51	1
Toluene	ND		0.050	mg/Kg		06/16/25 12:34	06/18/25 04:51	1

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QC Sample Results

Client: Vertex
Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-28381/3-A
Matrix: Solid
Analysis Batch: 28516

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28381

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10	mg/Kg		06/16/25 12:34	06/18/25 04:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		15 - 150	06/16/25 12:34	06/18/25 04:51	1

Lab Sample ID: LCS 885-28381/2-A
Matrix: Solid
Analysis Batch: 28516

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28381

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	0.982		mg/Kg		98	70 - 130
Ethylbenzene	1.00	0.980		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	2.00	2.03		mg/Kg		102	70 - 130
o-Xylene	1.00	0.995		mg/Kg		99	70 - 130
Toluene	1.00	0.979		mg/Kg		98	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		15 - 150

Lab Sample ID: MB 885-28392/3-A
Matrix: Solid
Analysis Batch: 28654

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28392

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		06/16/25 14:17	06/19/25 12:31	1
Ethylbenzene	ND		0.050	mg/Kg		06/16/25 14:17	06/19/25 12:31	1
Toluene	ND		0.050	mg/Kg		06/16/25 14:17	06/19/25 12:31	1
Xylenes, Total	ND		0.10	mg/Kg		06/16/25 14:17	06/19/25 12:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		15 - 150	06/16/25 14:17	06/19/25 12:31	1

Lab Sample ID: LCS 885-28392/2-A
Matrix: Solid
Analysis Batch: 28654

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28392

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	0.977		mg/Kg		98	70 - 130
Ethylbenzene	1.00	0.957		mg/Kg		96	70 - 130
m-Xylene & p-Xylene	2.00	2.05		mg/Kg		103	70 - 130
o-Xylene	1.00	0.977		mg/Kg		98	70 - 130
Toluene	1.00	0.969		mg/Kg		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		15 - 150

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QC Sample Results

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-28443/1-A
Matrix: Solid
Analysis Batch: 28430

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28443

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		06/17/25 09:57	06/17/25 23:13	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		06/17/25 09:57	06/17/25 23:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	111		62 - 134			06/17/25 09:57	06/17/25 23:13	1

Lab Sample ID: LCS 885-28443/2-A
Matrix: Solid
Analysis Batch: 28430

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28443

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Diesel Range Organics [C10-C28]	50.0	59.4		mg/Kg		119	51 - 148
Surrogate	%Recovery	Qualifier	Limits				
Di-n-octyl phthalate (Surr)	122		62 - 134				

Lab Sample ID: MB 885-28453/1-A
Matrix: Solid
Analysis Batch: 28430

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28453

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		06/17/25 10:31	06/18/25 04:07	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		06/17/25 10:31	06/18/25 04:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	106		62 - 134			06/17/25 10:31	06/18/25 04:07	1

Lab Sample ID: LCS 885-28453/2-A
Matrix: Solid
Analysis Batch: 28430

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 28453

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Diesel Range Organics [C10-C28]	50.0	57.0		mg/Kg		114	51 - 148
Surrogate	%Recovery	Qualifier	Limits				
Di-n-octyl phthalate (Surr)	112		62 - 134				

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-28395/1-A
Matrix: Solid
Analysis Batch: 28427

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 28395

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Chloride	ND		3.0	mg/Kg		06/16/25 14:30	06/17/25 08:44	1

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QC Sample Results

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 885-28395/2-A
 Matrix: Solid
 Analysis Batch: 28427

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 28395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	30.0	29.3		mg/Kg		98	90 - 110

Lab Sample ID: MB 885-28530/1-A
 Matrix: Solid
 Analysis Batch: 28538

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 28530

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5	mg/Kg		06/18/25 09:02	06/18/25 10:44	1

Lab Sample ID: LCS 885-28530/2-A
 Matrix: Solid
 Analysis Batch: 28538

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 28530

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	15.0	14.8		mg/Kg		99	90 - 110

Lab Sample ID: MB 885-28682/1-A
 Matrix: Solid
 Analysis Batch: 28690

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 28682

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5	mg/Kg		06/19/25 15:18	06/19/25 16:18	1

Lab Sample ID: LCS 885-28682/2-A
 Matrix: Solid
 Analysis Batch: 28690

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 28682

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	15.0	15.0		mg/Kg		100	90 - 110

QC Association Summary

Client: Vertex
Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

GC VOA

Prep Batch: 28381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-26815-1	BH-25-17 0'	Total/NA	Solid	5030C	
MB 885-28381/3-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-28381/1-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-28381/2-A	Lab Control Sample	Total/NA	Solid	5030C	

Prep Batch: 28392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-26815-2	BH-25-17 1'	Total/NA	Solid	5030C	
885-26815-3	BH-25-17 2'	Total/NA	Solid	5030C	
885-26815-4	BH-25-17 2.5'	Total/NA	Solid	5030C	
885-26815-5	BH-25-18 0'	Total/NA	Solid	5030C	
885-26815-6	BH-25-18 1'	Total/NA	Solid	5030C	
885-26815-7	BH-25-18 2'	Total/NA	Solid	5030C	
MB 885-28392/3-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-28392/1-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-28392/2-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 28515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-26815-1	BH-25-17 0'	Total/NA	Solid	8015M/D	28381
MB 885-28381/3-A	Method Blank	Total/NA	Solid	8015M/D	28381
LCS 885-28381/1-A	Lab Control Sample	Total/NA	Solid	8015M/D	28381

Analysis Batch: 28516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-26815-1	BH-25-17 0'	Total/NA	Solid	8021B	28381
MB 885-28381/3-A	Method Blank	Total/NA	Solid	8021B	28381
LCS 885-28381/2-A	Lab Control Sample	Total/NA	Solid	8021B	28381

Analysis Batch: 28653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-26815-2	BH-25-17 1'	Total/NA	Solid	8015M/D	28392
885-26815-3	BH-25-17 2'	Total/NA	Solid	8015M/D	28392
885-26815-4	BH-25-17 2.5'	Total/NA	Solid	8015M/D	28392
885-26815-5	BH-25-18 0'	Total/NA	Solid	8015M/D	28392
885-26815-6	BH-25-18 1'	Total/NA	Solid	8015M/D	28392
885-26815-7	BH-25-18 2'	Total/NA	Solid	8015M/D	28392
MB 885-28392/3-A	Method Blank	Total/NA	Solid	8015M/D	28392
LCS 885-28392/1-A	Lab Control Sample	Total/NA	Solid	8015M/D	28392

Analysis Batch: 28654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-26815-2	BH-25-17 1'	Total/NA	Solid	8021B	28392
885-26815-3	BH-25-17 2'	Total/NA	Solid	8021B	28392
885-26815-4	BH-25-17 2.5'	Total/NA	Solid	8021B	28392
885-26815-5	BH-25-18 0'	Total/NA	Solid	8021B	28392
885-26815-6	BH-25-18 1'	Total/NA	Solid	8021B	28392
885-26815-7	BH-25-18 2'	Total/NA	Solid	8021B	28392
MB 885-28392/3-A	Method Blank	Total/NA	Solid	8021B	28392
LCS 885-28392/2-A	Lab Control Sample	Total/NA	Solid	8021B	28392

Eurofins Albuquerque

QC Association Summary

Client: Vertex
Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

GC Semi VOA

Analysis Batch: 28430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-26815-1	BH-25-17 0'	Total/NA	Solid	8015M/D	28443
885-26815-2	BH-25-17 1'	Total/NA	Solid	8015M/D	28443
885-26815-3	BH-25-17 2'	Total/NA	Solid	8015M/D	28443
885-26815-4	BH-25-17 2.5'	Total/NA	Solid	8015M/D	28443
885-26815-5	BH-25-18 0'	Total/NA	Solid	8015M/D	28443
885-26815-6	BH-25-18 1'	Total/NA	Solid	8015M/D	28443
885-26815-7	BH-25-18 2'	Total/NA	Solid	8015M/D	28453
MB 885-28443/1-A	Method Blank	Total/NA	Solid	8015M/D	28443
MB 885-28453/1-A	Method Blank	Total/NA	Solid	8015M/D	28453
LCS 885-28443/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	28443
LCS 885-28453/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	28453

Prep Batch: 28443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-26815-1	BH-25-17 0'	Total/NA	Solid	SHAKE	
885-26815-2	BH-25-17 1'	Total/NA	Solid	SHAKE	
885-26815-3	BH-25-17 2'	Total/NA	Solid	SHAKE	
885-26815-4	BH-25-17 2.5'	Total/NA	Solid	SHAKE	
885-26815-5	BH-25-18 0'	Total/NA	Solid	SHAKE	
885-26815-6	BH-25-18 1'	Total/NA	Solid	SHAKE	
MB 885-28443/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-28443/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Prep Batch: 28453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-26815-7	BH-25-18 2'	Total/NA	Solid	SHAKE	
MB 885-28453/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-28453/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

HPLC/IC

Prep Batch: 28395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-26815-1	BH-25-17 0'	Total/NA	Solid	300_Prep	
MB 885-28395/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-28395/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 28427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-26815-1	BH-25-17 0'	Total/NA	Solid	300.0	28395
MB 885-28395/1-A	Method Blank	Total/NA	Solid	300.0	28395
LCS 885-28395/2-A	Lab Control Sample	Total/NA	Solid	300.0	28395

Prep Batch: 28530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-26815-2	BH-25-17 1'	Total/NA	Solid	300_Prep	
885-26815-3	BH-25-17 2'	Total/NA	Solid	300_Prep	
885-26815-4	BH-25-17 2.5'	Total/NA	Solid	300_Prep	
885-26815-5	BH-25-18 0'	Total/NA	Solid	300_Prep	
MB 885-28530/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-28530/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Eurofins Albuquerque

QC Association Summary

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

HPLC/IC

Analysis Batch: 28538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-26815-2	BH-25-17 1'	Total/NA	Solid	300.0	28530
885-26815-3	BH-25-17 2'	Total/NA	Solid	300.0	28530
885-26815-4	BH-25-17 2.5'	Total/NA	Solid	300.0	28530
885-26815-5	BH-25-18 0'	Total/NA	Solid	300.0	28530
MB 885-28530/1-A	Method Blank	Total/NA	Solid	300.0	28530
LCS 885-28530/2-A	Lab Control Sample	Total/NA	Solid	300.0	28530

Prep Batch: 28682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-26815-6	BH-25-18 1'	Total/NA	Solid	300_Prep	
885-26815-7	BH-25-18 2'	Total/NA	Solid	300_Prep	
MB 885-28682/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-28682/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 28690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-26815-6	BH-25-18 1'	Total/NA	Solid	300.0	28682
885-26815-7	BH-25-18 2'	Total/NA	Solid	300.0	28682
MB 885-28682/1-A	Method Blank	Total/NA	Solid	300.0	28682
LCS 885-28682/2-A	Lab Control Sample	Total/NA	Solid	300.0	28682

Lab Chronicle

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

Client Sample ID: BH-25-17 0'

Lab Sample ID: 885-26815-1

Date Collected: 06/12/25 10:15

Matrix: Solid

Date Received: 06/14/25 07:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			28381	CM	EET ALB	06/16/25 12:34
Total/NA	Analysis	8015M/D		1	28515	JP	EET ALB	06/18/25 14:40
Total/NA	Prep	5030C			28381	CM	EET ALB	06/16/25 12:34
Total/NA	Analysis	8021B		1	28516	JP	EET ALB	06/18/25 14:40
Total/NA	Prep	SHAKE			28443	MI	EET ALB	06/17/25 09:57
Total/NA	Analysis	8015M/D		1	28430	MI	EET ALB	06/18/25 02:48
Total/NA	Prep	300_Prep			28395	KB	EET ALB	06/16/25 14:30
Total/NA	Analysis	300.0		20	28427	RC	EET ALB	06/17/25 10:52

Client Sample ID: BH-25-17 1'

Lab Sample ID: 885-26815-2

Date Collected: 06/12/25 10:20

Matrix: Solid

Date Received: 06/14/25 07:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			28392	CM	EET ALB	06/16/25 14:24
Total/NA	Analysis	8015M/D		1	28653	JP	EET ALB	06/19/25 20:26
Total/NA	Prep	5030C			28392	CM	EET ALB	06/16/25 14:24
Total/NA	Analysis	8021B		1	28654	JP	EET ALB	06/19/25 20:26
Total/NA	Prep	SHAKE			28443	MI	EET ALB	06/17/25 09:57
Total/NA	Analysis	8015M/D		1	28430	MI	EET ALB	06/18/25 02:59
Total/NA	Prep	300_Prep			28530	MA	EET ALB	06/18/25 09:02
Total/NA	Analysis	300.0		20	28538	MA	EET ALB	06/18/25 16:11

Client Sample ID: BH-25-17 2'

Lab Sample ID: 885-26815-3

Date Collected: 06/12/25 10:25

Matrix: Solid

Date Received: 06/14/25 07:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			28392	CM	EET ALB	06/16/25 14:24
Total/NA	Analysis	8015M/D		1	28653	JP	EET ALB	06/19/25 20:50
Total/NA	Prep	5030C			28392	CM	EET ALB	06/16/25 14:24
Total/NA	Analysis	8021B		1	28654	JP	EET ALB	06/19/25 20:50
Total/NA	Prep	SHAKE			28443	MI	EET ALB	06/17/25 09:57
Total/NA	Analysis	8015M/D		1	28430	MI	EET ALB	06/18/25 03:10
Total/NA	Prep	300_Prep			28530	MA	EET ALB	06/18/25 09:02
Total/NA	Analysis	300.0		20	28538	MA	EET ALB	06/18/25 16:52

Client Sample ID: BH-25-17 2.5'

Lab Sample ID: 885-26815-4

Date Collected: 06/12/25 10:40

Matrix: Solid

Date Received: 06/14/25 07:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			28392	CM	EET ALB	06/16/25 14:24
Total/NA	Analysis	8015M/D		1	28653	JP	EET ALB	06/19/25 21:13

Eurofins Albuquerque

Lab Chronicle

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

Client Sample ID: BH-25-17 2.5'

Lab Sample ID: 885-26815-4

Date Collected: 06/12/25 10:40

Matrix: Solid

Date Received: 06/14/25 07:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			28392	CM	EET ALB	06/16/25 14:24
Total/NA	Analysis	8021B		1	28654	JP	EET ALB	06/19/25 21:13
Total/NA	Prep	SHAKE			28443	MI	EET ALB	06/17/25 09:57
Total/NA	Analysis	8015M/D		1	28430	MI	EET ALB	06/18/25 03:22
Total/NA	Prep	300_Prep			28530	MA	EET ALB	06/18/25 09:02
Total/NA	Analysis	300.0		20	28538	MA	EET ALB	06/18/25 17:06

Client Sample ID: BH-25-18 0'

Lab Sample ID: 885-26815-5

Date Collected: 06/12/25 11:00

Matrix: Solid

Date Received: 06/14/25 07:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			28392	CM	EET ALB	06/16/25 14:24
Total/NA	Analysis	8015M/D		1	28653	JP	EET ALB	06/19/25 21:37
Total/NA	Prep	5030C			28392	CM	EET ALB	06/16/25 14:24
Total/NA	Analysis	8021B		1	28654	JP	EET ALB	06/19/25 21:37
Total/NA	Prep	SHAKE			28443	MI	EET ALB	06/17/25 09:57
Total/NA	Analysis	8015M/D		1	28430	MI	EET ALB	06/18/25 03:33
Total/NA	Prep	300_Prep			28530	MA	EET ALB	06/18/25 09:02
Total/NA	Analysis	300.0		20	28538	MA	EET ALB	06/18/25 17:19

Client Sample ID: BH-25-18 1'

Lab Sample ID: 885-26815-6

Date Collected: 06/12/25 11:05

Matrix: Solid

Date Received: 06/14/25 07:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			28392	CM	EET ALB	06/16/25 14:24
Total/NA	Analysis	8015M/D		1	28653	JP	EET ALB	06/19/25 22:00
Total/NA	Prep	5030C			28392	CM	EET ALB	06/16/25 14:24
Total/NA	Analysis	8021B		1	28654	JP	EET ALB	06/19/25 22:00
Total/NA	Prep	SHAKE			28443	MI	EET ALB	06/17/25 09:57
Total/NA	Analysis	8015M/D		1	28430	MI	EET ALB	06/18/25 03:44
Total/NA	Prep	300_Prep			28682	MA	EET ALB	06/19/25 15:18
Total/NA	Analysis	300.0		20	28690	ES	EET ALB	06/19/25 17:41

Client Sample ID: BH-25-18 2'

Lab Sample ID: 885-26815-7

Date Collected: 06/12/25 11:20

Matrix: Solid

Date Received: 06/14/25 07:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			28392	CM	EET ALB	06/16/25 14:24
Total/NA	Analysis	8015M/D		1	28653	JP	EET ALB	06/19/25 22:24
Total/NA	Prep	5030C			28392	CM	EET ALB	06/16/25 14:24
Total/NA	Analysis	8021B		1	28654	JP	EET ALB	06/19/25 22:24

Eurofins Albuquerque

Lab Chronicle

Client: Vertex
Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

Client Sample ID: BH-25-18 2'

Lab Sample ID: 885-26815-7

Date Collected: 06/12/25 11:20

Matrix: Solid

Date Received: 06/14/25 07:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			28453	MI	EET ALB	06/17/25 10:31
Total/NA	Analysis	8015M/D		1	28430	MI	EET ALB	06/18/25 05:14
Total/NA	Prep	300_Prep			28682	MA	EET ALB	06/19/25 15:18
Total/NA	Analysis	300.0		20	28690	ES	EET ALB	06/19/25 17:51

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975



Accreditation/Certification Summary

Client: Vertex
Project/Site: Apache 25 Federal #009

Job ID: 885-26815-1

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date																																				
New Mexico	State	NM9425, NM0901	02-27-26																																				
<p>The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.</p> <table border="1"> <thead> <tr> <th>Analysis Method</th> <th>Prep Method</th> <th>Matrix</th> <th>Analyte</th> </tr> </thead> <tbody> <tr> <td>300.0</td> <td>300_Prep</td> <td>Solid</td> <td>Chloride</td> </tr> <tr> <td>8015M/D</td> <td>5030C</td> <td>Solid</td> <td>Gasoline Range Organics (GRO)-C6-C10</td> </tr> <tr> <td>8015M/D</td> <td>SHAKE</td> <td>Solid</td> <td>Diesel Range Organics [C10-C28]</td> </tr> <tr> <td>8015M/D</td> <td>SHAKE</td> <td>Solid</td> <td>Motor Oil Range Organics [C28-C40]</td> </tr> <tr> <td>8021B</td> <td>5030C</td> <td>Solid</td> <td>Benzene</td> </tr> <tr> <td>8021B</td> <td>5030C</td> <td>Solid</td> <td>Ethylbenzene</td> </tr> <tr> <td>8021B</td> <td>5030C</td> <td>Solid</td> <td>Toluene</td> </tr> <tr> <td>8021B</td> <td>5030C</td> <td>Solid</td> <td>Xylenes, Total</td> </tr> </tbody> </table>				Analysis Method	Prep Method	Matrix	Analyte	300.0	300_Prep	Solid	Chloride	8015M/D	5030C	Solid	Gasoline Range Organics (GRO)-C6-C10	8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]	8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]	8021B	5030C	Solid	Benzene	8021B	5030C	Solid	Ethylbenzene	8021B	5030C	Solid	Toluene	8021B	5030C	Solid	Xylenes, Total
Analysis Method	Prep Method	Matrix	Analyte																																				
300.0	300_Prep	Solid	Chloride																																				
8015M/D	5030C	Solid	Gasoline Range Organics (GRO)-C6-C10																																				
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]																																				
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]																																				
8021B	5030C	Solid	Benzene																																				
8021B	5030C	Solid	Ethylbenzene																																				
8021B	5030C	Solid	Toluene																																				
8021B	5030C	Solid	Xylenes, Total																																				
Oregon	NELAP	NM100001	02-26-26																																				



Chain-of-Custody Record

Turn-Around Time:
 Standard Rush-5 day

Client: **Vertex**

Project Name:
Apache 25 Federal #009

Mailing Address:
Apache 25 Federal #009

Project #:
25A-01155

Phone #:
25A-01155



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 871

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



Project Manager:
Kent Stallings
kstallings@vertexresource.com

Sampler: **L. Pullman**

On Ice: Yes No

of Coolers: **1**

Cooler Temp (including CF): **5.140.2 = 5.3°C** *Mojo*

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
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Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)											
X	X					X														
X	X					X														
X	X					X														
X	X					X														
X	X					X														
X	X					X														

Date: **06-13-25** Time: **07:00** Relinquished by: *L. Pullman*

Date: **6/13/25** Time: **1900** Relinquished by: *Kent Stallings*

Received by: *Acumino* Date: **6/13/25** Time: **7:00**

Received by: *Coover* Date: **6/14/25** Time: **7:53**

Remarks: **ATTN Jim Raley**
 Direct bill to Devon work order 8999999999 Jim Raley
 cc. permian@vertexresource.com, SCarttar@vertexresource.com,
 kstallings@vertexresource.com, SMcCarty@vertexresource.com,
 and LPullman@vertexresource.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.



Login Sample Receipt Checklist

Client: Vertex

Job Number: 885-26815-1

Login Number: 26815

List Source: Eurofins Albuquerque

List Number: 1

Creator: Proctor, Nancy

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Environment Testing

- 1
- 2
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- 7
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- 9
- 10
- 11

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Kent Stallings
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 8/19/2025 3:28:18 PM

JOB DESCRIPTION

Apache 25 Federal 9

JOB NUMBER

885-30750-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109



Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



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Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Apache 25 Federal 9

Laboratory Job ID: 885-30750-1



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Definitions/Glossary

Client: Vertex
Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Apache 25 Federal 9

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Job Narrative 885-30750-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The samples were received on 8/12/2025 7:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.1°C.

Gasoline Range Organics

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics

Method 8015D_DRO: The continuing calibration verification (CCV) associated with batch 885-32313 recovered above the upper control limit for Diesel Range Organics [C10-C28]. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are: BH25-18 3' (885-30750-1) and (885-30639-A-7-D).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Client Sample Results

Client: Vertex
Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

Client Sample ID: BH25-18 3'

Lab Sample ID: 885-30750-1

Date Collected: 08/08/25 07:50

Matrix: Solid

Date Received: 08/12/25 07:30

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9	mg/Kg		08/12/25 17:28	08/14/25 04:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		15 - 150			08/12/25 17:28	08/14/25 04:31	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		08/12/25 17:28	08/14/25 04:31	1
Ethylbenzene	ND		0.049	mg/Kg		08/12/25 17:28	08/14/25 04:31	1
Toluene	ND		0.049	mg/Kg		08/12/25 17:28	08/14/25 04:31	1
Xylenes, Total	ND		0.097	mg/Kg		08/12/25 17:28	08/14/25 04:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		15 - 150			08/12/25 17:28	08/14/25 04:31	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.2	mg/Kg		08/13/25 10:06	08/14/25 16:35	1
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		08/13/25 10:06	08/14/25 16:35	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	100		62 - 134			08/13/25 10:06	08/14/25 16:35	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140		60	mg/Kg		08/13/25 09:16	08/13/25 15:36	20

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Client Sample Results

Client: Vertex
Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

Client Sample ID: BH25-18 4'

Lab Sample ID: 885-30750-2

Date Collected: 08/08/25 07:55

Matrix: Solid

Date Received: 08/12/25 07:30

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9	mg/Kg		08/12/25 17:28	08/14/25 04:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		15 - 150			08/12/25 17:28	08/14/25 04:55	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		08/12/25 17:28	08/14/25 04:55	1
Ethylbenzene	ND		0.049	mg/Kg		08/12/25 17:28	08/14/25 04:55	1
Toluene	ND		0.049	mg/Kg		08/12/25 17:28	08/14/25 04:55	1
Xylenes, Total	ND		0.098	mg/Kg		08/12/25 17:28	08/14/25 04:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		15 - 150			08/12/25 17:28	08/14/25 04:55	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.2	mg/Kg		08/13/25 10:06	08/14/25 16:57	1
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		08/13/25 10:06	08/14/25 16:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	104		62 - 134			08/13/25 10:06	08/14/25 16:57	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	300		60	mg/Kg		08/13/25 09:16	08/13/25 15:46	20

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Client Sample Results

Client: Vertex
 Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

Client Sample ID: BH25-18 5'

Lab Sample ID: 885-30750-3

Date Collected: 08/08/25 08:00

Matrix: Solid

Date Received: 08/12/25 07:30

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9	mg/Kg		08/12/25 17:28	08/14/25 05:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		15 - 150			08/12/25 17:28	08/14/25 05:19	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		08/12/25 17:28	08/14/25 05:19	1
Ethylbenzene	ND		0.049	mg/Kg		08/12/25 17:28	08/14/25 05:19	1
Toluene	ND		0.049	mg/Kg		08/12/25 17:28	08/14/25 05:19	1
Xylenes, Total	ND		0.098	mg/Kg		08/12/25 17:28	08/14/25 05:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		15 - 150			08/12/25 17:28	08/14/25 05:19	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg		08/13/25 10:06	08/14/25 17:08	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		08/13/25 10:06	08/14/25 17:08	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	106		62 - 134			08/13/25 10:06	08/14/25 17:08	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	120		60	mg/Kg		08/13/25 09:16	08/13/25 15:56	20

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Client Sample Results

Client: Vertex
 Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

Client Sample ID: BH25-18 6'

Lab Sample ID: 885-30750-4

Date Collected: 08/08/25 08:05

Matrix: Solid

Date Received: 08/12/25 07:30

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.8	mg/Kg		08/12/25 17:28	08/14/25 05:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		15 - 150			08/12/25 17:28	08/14/25 05:43	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		08/12/25 17:28	08/14/25 05:43	1
Ethylbenzene	ND		0.048	mg/Kg		08/12/25 17:28	08/14/25 05:43	1
Toluene	ND		0.048	mg/Kg		08/12/25 17:28	08/14/25 05:43	1
Xylenes, Total	ND		0.096	mg/Kg		08/12/25 17:28	08/14/25 05:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		15 - 150			08/12/25 17:28	08/14/25 05:43	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.1	mg/Kg		08/13/25 10:06	08/14/25 17:20	1
Motor Oil Range Organics [C28-C40]	ND		45	mg/Kg		08/13/25 10:06	08/14/25 17:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	108		62 - 134			08/13/25 10:06	08/14/25 17:20	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	240		60	mg/Kg		08/13/25 15:30	08/13/25 21:21	20

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Client Sample Results

Client: Vertex
Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

Client Sample ID: BH25-18 7'

Lab Sample ID: 885-30750-5

Date Collected: 08/08/25 08:10

Matrix: Solid

Date Received: 08/12/25 07:30

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9	mg/Kg		08/12/25 17:28	08/14/25 06:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		15 - 150			08/12/25 17:28	08/14/25 06:06	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		08/12/25 17:28	08/14/25 06:06	1
Ethylbenzene	ND		0.049	mg/Kg		08/12/25 17:28	08/14/25 06:06	1
Toluene	ND		0.049	mg/Kg		08/12/25 17:28	08/14/25 06:06	1
Xylenes, Total	ND		0.097	mg/Kg		08/12/25 17:28	08/14/25 06:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		15 - 150			08/12/25 17:28	08/14/25 06:06	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.8	mg/Kg		08/13/25 10:06	08/14/25 17:31	1
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		08/13/25 10:06	08/14/25 17:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	103		62 - 134			08/13/25 10:06	08/14/25 17:31	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	280		60	mg/Kg		08/13/25 15:30	08/13/25 21:50	20

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Client Sample Results

Client: Vertex
Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

Client Sample ID: BH25-18 8'

Lab Sample ID: 885-30750-6

Date Collected: 08/08/25 08:15

Matrix: Solid

Date Received: 08/12/25 07:30

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0	mg/Kg		08/13/25 13:52	08/16/25 07:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		15 - 150			08/13/25 13:52	08/16/25 07:18	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		08/13/25 13:52	08/16/25 07:18	1
Ethylbenzene	ND		0.050	mg/Kg		08/13/25 13:52	08/16/25 07:18	1
Toluene	ND		0.050	mg/Kg		08/13/25 13:52	08/16/25 07:18	1
Xylenes, Total	ND		0.10	mg/Kg		08/13/25 13:52	08/16/25 07:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		15 - 150			08/13/25 13:52	08/16/25 07:18	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.2	mg/Kg		08/19/25 10:49	08/19/25 13:40	1
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		08/19/25 10:49	08/19/25 13:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	106		62 - 134			08/19/25 10:49	08/19/25 13:40	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	320		60	mg/Kg		08/13/25 15:30	08/13/25 22:39	20

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Client Sample Results

Client: Vertex
Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

Client Sample ID: BH25-18 9'

Lab Sample ID: 885-30750-7

Date Collected: 08/08/25 08:20

Matrix: Solid

Date Received: 08/12/25 07:30

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9	mg/Kg		08/13/25 13:52	08/16/25 07:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		15 - 150			08/13/25 13:52	08/16/25 07:42	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		08/13/25 13:52	08/16/25 07:42	1
Ethylbenzene	ND		0.049	mg/Kg		08/13/25 13:52	08/16/25 07:42	1
Toluene	ND		0.049	mg/Kg		08/13/25 13:52	08/16/25 07:42	1
Xylenes, Total	ND		0.098	mg/Kg		08/13/25 13:52	08/16/25 07:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		15 - 150			08/13/25 13:52	08/16/25 07:42	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6	mg/Kg		08/19/25 10:49	08/19/25 12:56	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		08/19/25 10:49	08/19/25 12:56	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	98		62 - 134			08/19/25 10:49	08/19/25 12:56	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	200		60	mg/Kg		08/13/25 15:30	08/13/25 22:49	20

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QC Sample Results

Client: Vertex
Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-32173/1-A
Matrix: Solid
Analysis Batch: 32294

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32173

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0	mg/Kg		08/12/25 17:28	08/13/25 22:59	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		15 - 150			08/12/25 17:28	08/13/25 22:59	1

Lab Sample ID: LCS 885-32173/2-A
Matrix: Solid
Analysis Batch: 32294

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32173

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	25.0	21.6		mg/Kg		86	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	188		15 - 150				

Lab Sample ID: MB 885-32260/1-A
Matrix: Solid
Analysis Batch: 32433

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32260

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0	mg/Kg		08/13/25 13:52	08/14/25 20:09	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		15 - 150			08/13/25 13:52	08/14/25 20:09	1

Lab Sample ID: LCS 885-32260/2-A
Matrix: Solid
Analysis Batch: 32433

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32260

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	25.0	24.2		mg/Kg		97	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	197		15 - 150				

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-32173/1-A
Matrix: Solid
Analysis Batch: 32293

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32173

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		08/12/25 17:28	08/13/25 22:59	1
Ethylbenzene	ND		0.050	mg/Kg		08/12/25 17:28	08/13/25 22:59	1
Toluene	ND		0.050	mg/Kg		08/12/25 17:28	08/13/25 22:59	1

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QC Sample Results

Client: Vertex
Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-32173/1-A
Matrix: Solid
Analysis Batch: 32293

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32173

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10	mg/Kg		08/12/25 17:28	08/13/25 22:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		15 - 150	08/12/25 17:28	08/13/25 22:59	1

Lab Sample ID: LCS 885-32173/3-A
Matrix: Solid
Analysis Batch: 32293

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32173

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	0.873		mg/Kg		87	70 - 130
Ethylbenzene	1.00	0.867		mg/Kg		87	70 - 130
m-Xylene & p-Xylene	2.00	1.82		mg/Kg		91	70 - 130
o-Xylene	1.00	0.867		mg/Kg		87	70 - 130
Toluene	1.00	0.872		mg/Kg		87	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	82		15 - 150

Lab Sample ID: MB 885-32260/1-A
Matrix: Solid
Analysis Batch: 32434

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32260

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		08/13/25 13:52	08/14/25 20:09	1
Ethylbenzene	ND		0.050	mg/Kg		08/13/25 13:52	08/14/25 20:09	1
Toluene	ND		0.050	mg/Kg		08/13/25 13:52	08/14/25 20:09	1
Xylenes, Total	ND		0.10	mg/Kg		08/13/25 13:52	08/14/25 20:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		15 - 150	08/13/25 13:52	08/14/25 20:09	1

Lab Sample ID: LCS 885-32260/3-A
Matrix: Solid
Analysis Batch: 32434

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32260

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	0.902		mg/Kg		90	70 - 130
Ethylbenzene	1.00	0.909		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	2.00	1.92		mg/Kg		96	70 - 130
o-Xylene	1.00	0.921		mg/Kg		92	70 - 130
Toluene	1.00	0.899		mg/Kg		90	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		15 - 150

Eurofins Albuquerque

QC Sample Results

Client: Vertex
Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-32212/1-A
Matrix: Solid
Analysis Batch: 32313

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32212

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		08/13/25 10:06	08/14/25 12:52	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		08/13/25 10:06	08/14/25 12:52	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	116		62 - 134			08/13/25 10:06	08/14/25 12:52	1

Lab Sample ID: LCS 885-32212/2-A
Matrix: Solid
Analysis Batch: 32313

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32212

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	50.0	57.7		mg/Kg		115	51 - 148
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Di-n-octyl phthalate (Surr)	122		62 - 134				

Lab Sample ID: MB 885-32719/1-A
Matrix: Solid
Analysis Batch: 32676

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32719

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		08/19/25 10:49	08/19/25 13:15	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		08/19/25 10:49	08/19/25 13:15	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	103		62 - 134			08/19/25 10:49	08/19/25 13:15	1

Lab Sample ID: LCS 885-32719/2-A
Matrix: Solid
Analysis Batch: 32676

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32719

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	50.0	46.4		mg/Kg		93	51 - 148
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Di-n-octyl phthalate (Surr)	102		62 - 134				

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-32198/1-A
Matrix: Solid
Analysis Batch: 32211

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32198

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5	mg/Kg		08/13/25 09:16	08/13/25 10:40	1

Eurofins Albuquerque

QC Sample Results

Client: Vertex
Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 885-32198/2-A
Matrix: Solid
Analysis Batch: 32211

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32198

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	15.0	14.7		mg/Kg		98	90 - 110

Lab Sample ID: MB 885-32275/1-A
Matrix: Solid
Analysis Batch: 32211

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32275

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5	mg/Kg		08/13/25 15:30	08/13/25 21:01	1

Lab Sample ID: LCS 885-32275/2-A
Matrix: Solid
Analysis Batch: 32211

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32275

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	15.0	14.7		mg/Kg		98	90 - 110

Lab Sample ID: 885-30750-4 MS
Matrix: Solid
Analysis Batch: 32211

Client Sample ID: BH25-18 6'
Prep Type: Total/NA
Prep Batch: 32275

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	240		30.1	275	4	mg/Kg		128	50 - 150

Lab Sample ID: 885-30750-4 MSD
Matrix: Solid
Analysis Batch: 32211

Client Sample ID: BH25-18 6'
Prep Type: Total/NA
Prep Batch: 32275

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	240		30.3	264	4	mg/Kg		93	50 - 150	4	20

Lab Sample ID: 885-30750-5 MSD
Matrix: Solid
Analysis Batch: 32211

Client Sample ID: BH25-18 7'
Prep Type: Total/NA
Prep Batch: 32275

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	280		30.1	303	4	mg/Kg		61	50 - 150	13	20

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QC Association Summary

Client: Vertex
Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

GC VOA

Prep Batch: 32173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30750-1	BH25-18 3'	Total/NA	Solid	5030C	
885-30750-2	BH25-18 4'	Total/NA	Solid	5030C	
885-30750-3	BH25-18 5'	Total/NA	Solid	5030C	
885-30750-4	BH25-18 6'	Total/NA	Solid	5030C	
885-30750-5	BH25-18 7'	Total/NA	Solid	5030C	
MB 885-32173/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-32173/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-32173/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Prep Batch: 32260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30750-6	BH25-18 8'	Total/NA	Solid	5030C	
885-30750-7	BH25-18 9'	Total/NA	Solid	5030C	
MB 885-32260/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-32260/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-32260/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 32293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30750-1	BH25-18 3'	Total/NA	Solid	8021B	32173
885-30750-2	BH25-18 4'	Total/NA	Solid	8021B	32173
885-30750-3	BH25-18 5'	Total/NA	Solid	8021B	32173
885-30750-4	BH25-18 6'	Total/NA	Solid	8021B	32173
885-30750-5	BH25-18 7'	Total/NA	Solid	8021B	32173
MB 885-32173/1-A	Method Blank	Total/NA	Solid	8021B	32173
LCS 885-32173/3-A	Lab Control Sample	Total/NA	Solid	8021B	32173

Analysis Batch: 32294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30750-1	BH25-18 3'	Total/NA	Solid	8015M/D	32173
885-30750-2	BH25-18 4'	Total/NA	Solid	8015M/D	32173
885-30750-3	BH25-18 5'	Total/NA	Solid	8015M/D	32173
885-30750-4	BH25-18 6'	Total/NA	Solid	8015M/D	32173
885-30750-5	BH25-18 7'	Total/NA	Solid	8015M/D	32173
MB 885-32173/1-A	Method Blank	Total/NA	Solid	8015M/D	32173
LCS 885-32173/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	32173

Analysis Batch: 32433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-32260/1-A	Method Blank	Total/NA	Solid	8015M/D	32260
LCS 885-32260/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	32260

Analysis Batch: 32434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-32260/1-A	Method Blank	Total/NA	Solid	8021B	32260
LCS 885-32260/3-A	Lab Control Sample	Total/NA	Solid	8021B	32260

Analysis Batch: 32486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30750-6	BH25-18 8'	Total/NA	Solid	8021B	32260
885-30750-7	BH25-18 9'	Total/NA	Solid	8021B	32260

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QC Association Summary

Client: Vertex
Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

GC VOA

Analysis Batch: 32487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30750-6	BH25-18 8'	Total/NA	Solid	8015M/D	32260
885-30750-7	BH25-18 9'	Total/NA	Solid	8015M/D	32260

GC Semi VOA

Prep Batch: 32212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30750-1	BH25-18 3'	Total/NA	Solid	SHAKE	
885-30750-2	BH25-18 4'	Total/NA	Solid	SHAKE	
885-30750-3	BH25-18 5'	Total/NA	Solid	SHAKE	
885-30750-4	BH25-18 6'	Total/NA	Solid	SHAKE	
885-30750-5	BH25-18 7'	Total/NA	Solid	SHAKE	
MB 885-32212/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-32212/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 32313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30750-1	BH25-18 3'	Total/NA	Solid	8015M/D	32212
885-30750-2	BH25-18 4'	Total/NA	Solid	8015M/D	32212
885-30750-3	BH25-18 5'	Total/NA	Solid	8015M/D	32212
885-30750-4	BH25-18 6'	Total/NA	Solid	8015M/D	32212
885-30750-5	BH25-18 7'	Total/NA	Solid	8015M/D	32212
MB 885-32212/1-A	Method Blank	Total/NA	Solid	8015M/D	32212
LCS 885-32212/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	32212

Analysis Batch: 32676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30750-6	BH25-18 8'	Total/NA	Solid	8015M/D	32719
MB 885-32719/1-A	Method Blank	Total/NA	Solid	8015M/D	32719
LCS 885-32719/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	32719

Analysis Batch: 32677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30750-7	BH25-18 9'	Total/NA	Solid	8015M/D	32719

Prep Batch: 32719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30750-6	BH25-18 8'	Total/NA	Solid	SHAKE	
885-30750-7	BH25-18 9'	Total/NA	Solid	SHAKE	
MB 885-32719/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-32719/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

HPLC/IC

Prep Batch: 32198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30750-1	BH25-18 3'	Total/NA	Solid	300_Prep	
885-30750-2	BH25-18 4'	Total/NA	Solid	300_Prep	
885-30750-3	BH25-18 5'	Total/NA	Solid	300_Prep	
MB 885-32198/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-32198/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

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QC Association Summary

Client: Vertex
 Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

HPLC/IC

Analysis Batch: 32211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30750-1	BH25-18 3'	Total/NA	Solid	300.0	32198
885-30750-2	BH25-18 4'	Total/NA	Solid	300.0	32198
885-30750-3	BH25-18 5'	Total/NA	Solid	300.0	32198
885-30750-4	BH25-18 6'	Total/NA	Solid	300.0	32275
885-30750-5	BH25-18 7'	Total/NA	Solid	300.0	32275
885-30750-6	BH25-18 8'	Total/NA	Solid	300.0	32275
885-30750-7	BH25-18 9'	Total/NA	Solid	300.0	32275
MB 885-32198/1-A	Method Blank	Total/NA	Solid	300.0	32198
MB 885-32275/1-A	Method Blank	Total/NA	Solid	300.0	32275
LCS 885-32198/2-A	Lab Control Sample	Total/NA	Solid	300.0	32198
LCS 885-32275/2-A	Lab Control Sample	Total/NA	Solid	300.0	32275
885-30750-4 MS	BH25-18 6'	Total/NA	Solid	300.0	32275
885-30750-4 MSD	BH25-18 6'	Total/NA	Solid	300.0	32275
885-30750-5 MSD	BH25-18 7'	Total/NA	Solid	300.0	32275

Prep Batch: 32275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-30750-4	BH25-18 6'	Total/NA	Solid	300_Prep	
885-30750-5	BH25-18 7'	Total/NA	Solid	300_Prep	
885-30750-6	BH25-18 8'	Total/NA	Solid	300_Prep	
885-30750-7	BH25-18 9'	Total/NA	Solid	300_Prep	
MB 885-32275/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-32275/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	
885-30750-4 MS	BH25-18 6'	Total/NA	Solid	300_Prep	
885-30750-4 MSD	BH25-18 6'	Total/NA	Solid	300_Prep	
885-30750-5 MSD	BH25-18 7'	Total/NA	Solid	300_Prep	

Lab Chronicle

Client: Vertex
 Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

Client Sample ID: BH25-18 3'

Lab Sample ID: 885-30750-1

Date Collected: 08/08/25 07:50

Matrix: Solid

Date Received: 08/12/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			32173	KLS	EET ALB	08/12/25 17:28
Total/NA	Analysis	8015M/D		1	32294	JP	EET ALB	08/14/25 04:31
Total/NA	Prep	5030C			32173	KLS	EET ALB	08/12/25 17:28
Total/NA	Analysis	8021B		1	32293	JP	EET ALB	08/14/25 04:31
Total/NA	Prep	SHAKE			32212	JM	EET ALB	08/13/25 10:06
Total/NA	Analysis	8015M/D		1	32313	JE	EET ALB	08/14/25 16:35
Total/NA	Prep	300_Prep			32198	RC	EET ALB	08/13/25 09:16
Total/NA	Analysis	300.0		20	32211	RC	EET ALB	08/13/25 15:36

Client Sample ID: BH25-18 4'

Lab Sample ID: 885-30750-2

Date Collected: 08/08/25 07:55

Matrix: Solid

Date Received: 08/12/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			32173	KLS	EET ALB	08/12/25 17:28
Total/NA	Analysis	8015M/D		1	32294	JP	EET ALB	08/14/25 04:55
Total/NA	Prep	5030C			32173	KLS	EET ALB	08/12/25 17:28
Total/NA	Analysis	8021B		1	32293	JP	EET ALB	08/14/25 04:55
Total/NA	Prep	SHAKE			32212	JM	EET ALB	08/13/25 10:06
Total/NA	Analysis	8015M/D		1	32313	JE	EET ALB	08/14/25 16:57
Total/NA	Prep	300_Prep			32198	RC	EET ALB	08/13/25 09:16
Total/NA	Analysis	300.0		20	32211	RC	EET ALB	08/13/25 15:46

Client Sample ID: BH25-18 5'

Lab Sample ID: 885-30750-3

Date Collected: 08/08/25 08:00

Matrix: Solid

Date Received: 08/12/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			32173	KLS	EET ALB	08/12/25 17:28
Total/NA	Analysis	8015M/D		1	32294	JP	EET ALB	08/14/25 05:19
Total/NA	Prep	5030C			32173	KLS	EET ALB	08/12/25 17:28
Total/NA	Analysis	8021B		1	32293	JP	EET ALB	08/14/25 05:19
Total/NA	Prep	SHAKE			32212	JM	EET ALB	08/13/25 10:06
Total/NA	Analysis	8015M/D		1	32313	JE	EET ALB	08/14/25 17:08
Total/NA	Prep	300_Prep			32198	RC	EET ALB	08/13/25 09:16
Total/NA	Analysis	300.0		20	32211	RC	EET ALB	08/13/25 15:56

Client Sample ID: BH25-18 6'

Lab Sample ID: 885-30750-4

Date Collected: 08/08/25 08:05

Matrix: Solid

Date Received: 08/12/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			32173	KLS	EET ALB	08/12/25 17:28
Total/NA	Analysis	8015M/D		1	32294	JP	EET ALB	08/14/25 05:43

Eurofins Albuquerque

Lab Chronicle

Client: Vertex
Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

Client Sample ID: BH25-18 6'

Lab Sample ID: 885-30750-4

Date Collected: 08/08/25 08:05

Matrix: Solid

Date Received: 08/12/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			32173	KLS	EET ALB	08/12/25 17:28
Total/NA	Analysis	8021B		1	32293	JP	EET ALB	08/14/25 05:43
Total/NA	Prep	SHAKE			32212	JM	EET ALB	08/13/25 10:06
Total/NA	Analysis	8015M/D		1	32313	JE	EET ALB	08/14/25 17:20
Total/NA	Prep	300_Prep			32275	MA	EET ALB	08/13/25 15:30
Total/NA	Analysis	300.0		20	32211	RC	EET ALB	08/13/25 21:21

Client Sample ID: BH25-18 7'

Lab Sample ID: 885-30750-5

Date Collected: 08/08/25 08:10

Matrix: Solid

Date Received: 08/12/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			32173	KLS	EET ALB	08/12/25 17:28
Total/NA	Analysis	8015M/D		1	32294	JP	EET ALB	08/14/25 06:06
Total/NA	Prep	5030C			32173	KLS	EET ALB	08/12/25 17:28
Total/NA	Analysis	8021B		1	32293	JP	EET ALB	08/14/25 06:06
Total/NA	Prep	SHAKE			32212	JM	EET ALB	08/13/25 10:06
Total/NA	Analysis	8015M/D		1	32313	JE	EET ALB	08/14/25 17:31
Total/NA	Prep	300_Prep			32275	MA	EET ALB	08/13/25 15:30
Total/NA	Analysis	300.0		20	32211	RC	EET ALB	08/13/25 21:50

Client Sample ID: BH25-18 8'

Lab Sample ID: 885-30750-6

Date Collected: 08/08/25 08:15

Matrix: Solid

Date Received: 08/12/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			32260	KLS	EET ALB	08/13/25 13:52
Total/NA	Analysis	8015M/D		1	32487	JP	EET ALB	08/16/25 07:18
Total/NA	Prep	5030C			32260	KLS	EET ALB	08/13/25 13:52
Total/NA	Analysis	8021B		1	32486	JP	EET ALB	08/16/25 07:18
Total/NA	Prep	SHAKE			32719	DR	EET ALB	08/19/25 10:49
Total/NA	Analysis	8015M/D		1	32676	EM	EET ALB	08/19/25 13:40
Total/NA	Prep	300_Prep			32275	MA	EET ALB	08/13/25 15:30
Total/NA	Analysis	300.0		20	32211	RC	EET ALB	08/13/25 22:39

Client Sample ID: BH25-18 9'

Lab Sample ID: 885-30750-7

Date Collected: 08/08/25 08:20

Matrix: Solid

Date Received: 08/12/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			32260	KLS	EET ALB	08/13/25 13:52
Total/NA	Analysis	8015M/D		1	32487	JP	EET ALB	08/16/25 07:42
Total/NA	Prep	5030C			32260	KLS	EET ALB	08/13/25 13:52
Total/NA	Analysis	8021B		1	32486	JP	EET ALB	08/16/25 07:42

Eurofins Albuquerque

Lab Chronicle

Client: Vertex
Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

Client Sample ID: BH25-18 9'

Lab Sample ID: 885-30750-7

Date Collected: 08/08/25 08:20

Matrix: Solid

Date Received: 08/12/25 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			32719	DR	EET ALB	08/19/25 10:49
Total/NA	Analysis	8015M/D		1	32677	EM	EET ALB	08/19/25 12:56
Total/NA	Prep	300_Prep			32275	MA	EET ALB	08/13/25 15:30
Total/NA	Analysis	300.0		20	32211	RC	EET ALB	08/13/25 22:49

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975



Accreditation/Certification Summary

Client: Vertex
 Project/Site: Apache 25 Federal 9

Job ID: 885-30750-1

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-27-26
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015M/D	5030C	Solid	Gasoline Range Organics (GRO)-C6-C10
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total
Oregon	NELAP	NM100001	02-26-26



Chain-of-Custody Record

Client: VERTEX (bill to Devon)

Mailing Address: 3101 Boyd dr
Carlsbad NM, 88220

Phone #: 575-725-5001

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: APACHE 25 FEDERAL 9

Project #: 25A-01155

Project Manager: SCARTTAR@VERTEX.CA
KSTALLINGS@VERTEX.CA
SALLY CARTTAR & KENT STALLINGS

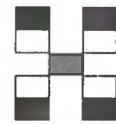
Sampler: KATRINA TAYLOR

On Ice: Yes No

of Coolers: 1 Abby

Cooler Temp (including CF): 63-0.2-0.1 (°C)

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)
8/18	7:50	Soil	BH25-18 3'	4oz, 1	ILG		X	X					X			
	7:55		BH25-18 4'													
	8:00		BH25-18 5'													
	8:05		BH25-18 6'													
	8:10		BH25-18 7'													
	8:15		BH25-18 8'													
	8:20		BH25-18 9'													



HALL ENVIRONMENTAL ANALYSIS LAB



885-30750 COC

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX/ MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
X	X					X			

Date: 8/11 Time: 10:30 Relinquished by: [Signature]

Received by: [Signature] Via: [Signature] Date: 8/11/25 Time: 10:30

Remarks: CC: 1007883501, PLZ bill to devon
ATTN: JIM.RALEY@DNV.COM

Date: 8/11/25 Time: 19:00 Relinquished by: [Signature]

Received by: [Signature] Via: [Signature] Date: 8/12/25 Time: 7:30

CC: SCARTTAR@VERTEX.CA, KSTALLINGS@VERTEX.CA
KTAYLOR@VERTEX.CA

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.

Login Sample Receipt Checklist

Client: Vertex

Job Number: 885-30750-1

Login Number: 30750

List Source: Eurofins Albuquerque

List Number: 1

Creator: Alderette, Joseph

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





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

December 18, 2020

Natalie Gordon

Devon Energy

6488 Seven Rivers Highway

Artesia, NM 88210

TEL: (505) 350-1336

FAX:

RE: Apache 25 Fed 9

OrderNo.: 2012615

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 24 sample(s) on 12/11/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-01

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 9:25:00 AM

Lab ID: 2012615-001

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	96	9.7		mg/Kg	1	12/13/2020 12:02:13 AM
Motor Oil Range Organics (MRO)	67	48		mg/Kg	1	12/13/2020 12:02:13 AM
Surr: DNOP	110	30.4-154		%Rec	1	12/13/2020 12:02:13 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/15/2020 6:23:09 PM
Surr: BFB	86.2	75.3-105		%Rec	1	12/15/2020 6:23:09 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/15/2020 6:23:09 PM
Toluene	ND	0.047		mg/Kg	1	12/15/2020 6:23:09 PM
Ethylbenzene	ND	0.047		mg/Kg	1	12/15/2020 6:23:09 PM
Xylenes, Total	ND	0.095		mg/Kg	1	12/15/2020 6:23:09 PM
Surr: 4-Bromofluorobenzene	87.7	80-120		%Rec	1	12/15/2020 6:23:09 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	150	60		mg/Kg	20	12/17/2020 3:44:46 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-02

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 9:30:00 AM

Lab ID: 2012615-002

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/13/2020 12:11:34 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/13/2020 12:11:34 AM
Surr: DNOP	103	30.4-154		%Rec	1	12/13/2020 12:11:34 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/15/2020 6:46:26 PM
Surr: BFB	86.9	75.3-105		%Rec	1	12/15/2020 6:46:26 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/15/2020 6:46:26 PM
Toluene	ND	0.048		mg/Kg	1	12/15/2020 6:46:26 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/15/2020 6:46:26 PM
Xylenes, Total	ND	0.096		mg/Kg	1	12/15/2020 6:46:26 PM
Surr: 4-Bromofluorobenzene	89.3	80-120		%Rec	1	12/15/2020 6:46:26 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	120	59		mg/Kg	20	12/17/2020 3:57:10 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-03

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 9:40:00 AM

Lab ID: 2012615-003

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/13/2020 12:20:56 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/13/2020 12:20:56 AM
Surr: DNOP	107	30.4-154		%Rec	1	12/13/2020 12:20:56 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/15/2020 7:56:12 PM
Surr: BFB	84.2	75.3-105		%Rec	1	12/15/2020 7:56:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/15/2020 7:56:12 PM
Toluene	ND	0.048		mg/Kg	1	12/15/2020 7:56:12 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/15/2020 7:56:12 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/15/2020 7:56:12 PM
Surr: 4-Bromofluorobenzene	85.6	80-120		%Rec	1	12/15/2020 7:56:12 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	12/17/2020 4:09:35 PM

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

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

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-04

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 9:45:00 AM

Lab ID: 2012615-004

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	17	9.1		mg/Kg	1	12/13/2020 12:30:20 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/13/2020 12:30:20 AM
Surr: DNOP	104	30.4-154		%Rec	1	12/13/2020 12:30:20 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/15/2020 8:19:24 PM
Surr: BFB	87.6	75.3-105		%Rec	1	12/15/2020 8:19:24 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/15/2020 8:19:24 PM
Toluene	ND	0.048		mg/Kg	1	12/15/2020 8:19:24 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/15/2020 8:19:24 PM
Xylenes, Total	ND	0.096		mg/Kg	1	12/15/2020 8:19:24 PM
Surr: 4-Bromofluorobenzene	89.9	80-120		%Rec	1	12/15/2020 8:19:24 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	300	60		mg/Kg	20	12/17/2020 4:22:00 PM

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

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

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-05

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 9:50:00 AM

Lab ID: 2012615-005

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/13/2020 12:39:45 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/13/2020 12:39:45 AM
Surr: DNOP	105	30.4-154		%Rec	1	12/13/2020 12:39:45 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/15/2020 8:42:31 PM
Surr: BFB	86.0	75.3-105		%Rec	1	12/15/2020 8:42:31 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/15/2020 8:42:31 PM
Toluene	ND	0.049		mg/Kg	1	12/15/2020 8:42:31 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/15/2020 8:42:31 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/15/2020 8:42:31 PM
Surr: 4-Bromofluorobenzene	88.1	80-120		%Rec	1	12/15/2020 8:42:31 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	130	60		mg/Kg	20	12/17/2020 4:34:24 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-06

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 10:00:00 AM

Lab ID: 2012615-006

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/13/2020 12:49:13 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/13/2020 12:49:13 AM
Surr: DNOP	104	30.4-154		%Rec	1	12/13/2020 12:49:13 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/15/2020 9:05:39 PM
Surr: BFB	85.2	75.3-105		%Rec	1	12/15/2020 9:05:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/15/2020 9:05:39 PM
Toluene	ND	0.048		mg/Kg	1	12/15/2020 9:05:39 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/15/2020 9:05:39 PM
Xylenes, Total	ND	0.095		mg/Kg	1	12/15/2020 9:05:39 PM
Surr: 4-Bromofluorobenzene	86.9	80-120		%Rec	1	12/15/2020 9:05:39 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	140	60		mg/Kg	20	12/17/2020 4:46:49 PM

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

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

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-07

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 10:15:00 AM

Lab ID: 2012615-007

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	15	9.6		mg/Kg	1	12/13/2020 12:58:50 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/13/2020 12:58:50 AM
Surr: DNOP	107	30.4-154		%Rec	1	12/13/2020 12:58:50 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/15/2020 9:28:48 PM
Surr: BFB	84.2	75.3-105		%Rec	1	12/15/2020 9:28:48 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/15/2020 9:28:48 PM
Toluene	ND	0.050		mg/Kg	1	12/15/2020 9:28:48 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/15/2020 9:28:48 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/15/2020 9:28:48 PM
Surr: 4-Bromofluorobenzene	86.9	80-120		%Rec	1	12/15/2020 9:28:48 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	180	60		mg/Kg	20	12/17/2020 7:15:45 PM

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

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

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-08

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 10:20:00 AM

Lab ID: 2012615-008

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/13/2020 1:08:23 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/13/2020 1:08:23 AM
Surr: DNOP	103	30.4-154		%Rec	1	12/13/2020 1:08:23 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/15/2020 9:51:57 PM
Surr: BFB	85.9	75.3-105		%Rec	1	12/15/2020 9:51:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/15/2020 9:51:57 PM
Toluene	ND	0.048		mg/Kg	1	12/15/2020 9:51:57 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/15/2020 9:51:57 PM
Xylenes, Total	ND	0.096		mg/Kg	1	12/15/2020 9:51:57 PM
Surr: 4-Bromofluorobenzene	88.8	80-120		%Rec	1	12/15/2020 9:51:57 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	69	60		mg/Kg	20	12/17/2020 7:28:09 PM

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

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

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-09

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 10:25:00 AM

Lab ID: 2012615-009

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	12/13/2020 1:17:55 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/13/2020 1:17:55 AM
Surr: DNOP	108	30.4-154		%Rec	1	12/13/2020 1:17:55 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/15/2020 10:15:02 PM
Surr: BFB	86.9	75.3-105		%Rec	1	12/15/2020 10:15:02 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	12/15/2020 10:15:02 PM
Toluene	ND	0.049		mg/Kg	1	12/15/2020 10:15:02 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/15/2020 10:15:02 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/15/2020 10:15:02 PM
Surr: 4-Bromofluorobenzene	88.8	80-120		%Rec	1	12/15/2020 10:15:02 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	12/17/2020 7:40:34 PM

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

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

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-10

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 10:30:00 AM

Lab ID: 2012615-010

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/13/2020 1:27:27 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/13/2020 1:27:27 AM
Surr: DNOP	102	30.4-154		%Rec	1	12/13/2020 1:27:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/15/2020 10:38:07 PM
Surr: BFB	85.7	75.3-105		%Rec	1	12/15/2020 10:38:07 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	12/15/2020 10:38:07 PM
Toluene	ND	0.046		mg/Kg	1	12/15/2020 10:38:07 PM
Ethylbenzene	ND	0.046		mg/Kg	1	12/15/2020 10:38:07 PM
Xylenes, Total	ND	0.093		mg/Kg	1	12/15/2020 10:38:07 PM
Surr: 4-Bromofluorobenzene	87.8	80-120		%Rec	1	12/15/2020 10:38:07 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	12/17/2020 7:52:58 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-11

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 10:35:00 AM

Lab ID: 2012615-011

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: mb
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/14/2020 3:07:16 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/14/2020 3:07:16 PM
Surr: DNOP	116	30.4-154		%Rec	1	12/14/2020 3:07:16 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/15/2020 11:01:07 PM
Surr: BFB	84.6	75.3-105		%Rec	1	12/15/2020 11:01:07 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	12/15/2020 11:01:07 PM
Toluene	ND	0.047		mg/Kg	1	12/15/2020 11:01:07 PM
Ethylbenzene	ND	0.047		mg/Kg	1	12/15/2020 11:01:07 PM
Xylenes, Total	ND	0.094		mg/Kg	1	12/15/2020 11:01:07 PM
Surr: 4-Bromofluorobenzene	86.8	80-120		%Rec	1	12/15/2020 11:01:07 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	92	61		mg/Kg	20	12/17/2020 8:05:22 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-12

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 10:40:00 AM

Lab ID: 2012615-012

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: mb
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/14/2020 3:16:49 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/14/2020 3:16:49 PM
Surr: DNOP	129	30.4-154		%Rec	1	12/14/2020 3:16:49 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/15/2020 11:24:12 PM
Surr: BFB	84.5	75.3-105		%Rec	1	12/15/2020 11:24:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	12/15/2020 11:24:12 PM
Toluene	ND	0.046		mg/Kg	1	12/15/2020 11:24:12 PM
Ethylbenzene	ND	0.046		mg/Kg	1	12/15/2020 11:24:12 PM
Xylenes, Total	ND	0.093		mg/Kg	1	12/15/2020 11:24:12 PM
Surr: 4-Bromofluorobenzene	87.0	80-120		%Rec	1	12/15/2020 11:24:12 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	12/17/2020 8:42:37 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-13

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 10:45:00 AM

Lab ID: 2012615-013

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: mb
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/14/2020 3:26:20 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/14/2020 3:26:20 PM
Surr: DNOP	102	30.4-154		%Rec	1	12/14/2020 3:26:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/16/2020 12:10:18 AM
Surr: BFB	83.3	75.3-105		%Rec	1	12/16/2020 12:10:18 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/16/2020 12:10:18 AM
Toluene	ND	0.048		mg/Kg	1	12/16/2020 12:10:18 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/16/2020 12:10:18 AM
Xylenes, Total	ND	0.096		mg/Kg	1	12/16/2020 12:10:18 AM
Surr: 4-Bromofluorobenzene	86.2	80-120		%Rec	1	12/16/2020 12:10:18 AM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	12/17/2020 8:55:02 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-14

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 10:50:00 AM

Lab ID: 2012615-014

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: mb
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/14/2020 3:35:50 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/14/2020 3:35:50 PM
Surr: DNOP	119	30.4-154		%Rec	1	12/14/2020 3:35:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/16/2020 12:33:18 AM
Surr: BFB	84.7	75.3-105		%Rec	1	12/16/2020 12:33:18 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	12/16/2020 12:33:18 AM
Toluene	ND	0.047		mg/Kg	1	12/16/2020 12:33:18 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/16/2020 12:33:18 AM
Xylenes, Total	ND	0.094		mg/Kg	1	12/16/2020 12:33:18 AM
Surr: 4-Bromofluorobenzene	87.4	80-120		%Rec	1	12/16/2020 12:33:18 AM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	12/17/2020 9:07:27 PM

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

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

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-15

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 10:55:00 AM

Lab ID: 2012615-015

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: mb
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/14/2020 3:45:22 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/14/2020 3:45:22 PM
Surr: DNOP	110	30.4-154		%Rec	1	12/14/2020 3:45:22 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	12/17/2020 9:19:51 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: DJF
Benzene	ND	0.024		mg/Kg	1	12/17/2020 4:10:47 AM
Toluene	ND	0.048		mg/Kg	1	12/17/2020 4:10:47 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/17/2020 4:10:47 AM
Xylenes, Total	ND	0.095		mg/Kg	1	12/17/2020 4:10:47 AM
Surr: 1,2-Dichloroethane-d4	92.1	70-130		%Rec	1	12/17/2020 4:10:47 AM
Surr: 4-Bromofluorobenzene	99.3	70-130		%Rec	1	12/17/2020 4:10:47 AM
Surr: Dibromofluoromethane	113	70-130		%Rec	1	12/17/2020 4:10:47 AM
Surr: Toluene-d8	94.5	70-130		%Rec	1	12/17/2020 4:10:47 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/17/2020 4:10:47 AM
Surr: BFB	93.9	70-130		%Rec	1	12/17/2020 4:10:47 AM

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

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

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-01

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 11:00:00 AM

Lab ID: 2012615-016

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: mb
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	12/14/2020 3:54:51 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/14/2020 3:54:51 PM
Surr: DNOP	108	30.4-154		%Rec	1	12/14/2020 3:54:51 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	80	60		mg/Kg	20	12/17/2020 9:32:16 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: DJF
Benzene	ND	0.024		mg/Kg	1	12/17/2020 4:37:34 AM
Toluene	ND	0.049		mg/Kg	1	12/17/2020 4:37:34 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/17/2020 4:37:34 AM
Xylenes, Total	ND	0.098		mg/Kg	1	12/17/2020 4:37:34 AM
Surr: 1,2-Dichloroethane-d4	90.0	70-130		%Rec	1	12/17/2020 4:37:34 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/17/2020 4:37:34 AM
Surr: Dibromofluoromethane	115	70-130		%Rec	1	12/17/2020 4:37:34 AM
Surr: Toluene-d8	94.7	70-130		%Rec	1	12/17/2020 4:37:34 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/17/2020 4:37:34 AM
Surr: BFB	95.9	70-130		%Rec	1	12/17/2020 4:37:34 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order 2012615

Date Reported: 12/18/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-02

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 11:05:00 AM

Lab ID: 2012615-017

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: mb
Diesel Range Organics (DRO)	140	9.5		mg/Kg	1	12/14/2020 4:04:23 PM
Motor Oil Range Organics (MRO)	98	47		mg/Kg	1	12/14/2020 4:04:23 PM
Surr: DNOP	130	30.4-154		%Rec	1	12/14/2020 4:04:23 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	100	60		mg/Kg	20	12/17/2020 9:44:40 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: DJF
Benzene	ND	0.024		mg/Kg	1	12/17/2020 5:04:26 AM
Toluene	ND	0.047		mg/Kg	1	12/17/2020 5:04:26 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/17/2020 5:04:26 AM
Xylenes, Total	ND	0.094		mg/Kg	1	12/17/2020 5:04:26 AM
Surr: 1,2-Dichloroethane-d4	89.5	70-130		%Rec	1	12/17/2020 5:04:26 AM
Surr: 4-Bromofluorobenzene	99.9	70-130		%Rec	1	12/17/2020 5:04:26 AM
Surr: Dibromofluoromethane	113	70-130		%Rec	1	12/17/2020 5:04:26 AM
Surr: Toluene-d8	94.1	70-130		%Rec	1	12/17/2020 5:04:26 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/17/2020 5:04:26 AM
Surr: BFB	95.8	70-130		%Rec	1	12/17/2020 5:04:26 AM

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

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

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-03

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 11:15:00 AM

Lab ID: 2012615-018

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: mb
Diesel Range Organics (DRO)	24	9.8		mg/Kg	1	12/14/2020 4:13:55 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/14/2020 4:13:55 PM
Surr: DNOP	117	30.4-154		%Rec	1	12/14/2020 4:13:55 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	390	60		mg/Kg	20	12/17/2020 9:57:05 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: DJF
Benzene	ND	0.024		mg/Kg	1	12/17/2020 5:31:16 AM
Toluene	ND	0.048		mg/Kg	1	12/17/2020 5:31:16 AM
Ethylbenzene	ND	0.048		mg/Kg	1	12/17/2020 5:31:16 AM
Xylenes, Total	ND	0.097		mg/Kg	1	12/17/2020 5:31:16 AM
Surr: 1,2-Dichloroethane-d4	89.9	70-130		%Rec	1	12/17/2020 5:31:16 AM
Surr: 4-Bromofluorobenzene	99.3	70-130		%Rec	1	12/17/2020 5:31:16 AM
Surr: Dibromofluoromethane	110	70-130		%Rec	1	12/17/2020 5:31:16 AM
Surr: Toluene-d8	95.1	70-130		%Rec	1	12/17/2020 5:31:16 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/17/2020 5:31:16 AM
Surr: BFB	93.7	70-130		%Rec	1	12/17/2020 5:31:16 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-04

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 11:20:00 AM

Lab ID: 2012615-019

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: mb
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	12/14/2020 4:23:26 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	12/14/2020 4:23:26 PM
Surr: DNOP	96.9	30.4-154		%Rec	1	12/14/2020 4:23:26 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	160	60		mg/Kg	20	12/17/2020 10:09:29 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	12/17/2020 5:58:06 AM
Toluene	ND	0.049		mg/Kg	1	12/17/2020 5:58:06 AM
Ethylbenzene	ND	0.049		mg/Kg	1	12/17/2020 5:58:06 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/17/2020 5:58:06 AM
Surr: 1,2-Dichloroethane-d4	88.4	70-130		%Rec	1	12/17/2020 5:58:06 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/17/2020 5:58:06 AM
Surr: Dibromofluoromethane	110	70-130		%Rec	1	12/17/2020 5:58:06 AM
Surr: Toluene-d8	95.2	70-130		%Rec	1	12/17/2020 5:58:06 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/17/2020 5:58:06 AM
Surr: BFB	95.9	70-130		%Rec	1	12/17/2020 5:58:06 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order 2012615

Date Reported: 12/18/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-05

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 11:30:00 AM

Lab ID: 2012615-020

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: mb
Diesel Range Organics (DRO)	11	8.9		mg/Kg	1	12/14/2020 4:32:56 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/14/2020 4:32:56 PM
Surr: DNOP	103	30.4-154		%Rec	1	12/14/2020 4:32:56 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	270	60		mg/Kg	20	12/17/2020 10:21:54 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: DJF
Benzene	ND	0.023		mg/Kg	1	12/17/2020 6:25:06 AM
Toluene	ND	0.047		mg/Kg	1	12/17/2020 6:25:06 AM
Ethylbenzene	ND	0.047		mg/Kg	1	12/17/2020 6:25:06 AM
Xylenes, Total	ND	0.094		mg/Kg	1	12/17/2020 6:25:06 AM
Surr: 1,2-Dichloroethane-d4	90.5	70-130		%Rec	1	12/17/2020 6:25:06 AM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/17/2020 6:25:06 AM
Surr: Dibromofluoromethane	113	70-130		%Rec	1	12/17/2020 6:25:06 AM
Surr: Toluene-d8	93.4	70-130		%Rec	1	12/17/2020 6:25:06 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/17/2020 6:25:06 AM
Surr: BFB	95.5	70-130		%Rec	1	12/17/2020 6:25:06 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-06

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 11:35:00 AM

Lab ID: 2012615-021

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: mb
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	12/14/2020 4:42:25 PM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	12/14/2020 4:42:25 PM
Surr: DNOP	102	30.4-154		%Rec	1	12/14/2020 4:42:25 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	12/17/2020 10:34:19 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	12/17/2020 6:52:31 AM
Toluene	ND	0.050		mg/Kg	1	12/17/2020 6:52:31 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/17/2020 6:52:31 AM
Xylenes, Total	ND	0.099		mg/Kg	1	12/17/2020 6:52:31 AM
Surr: 1,2-Dichloroethane-d4	90.8	70-130		%Rec	1	12/17/2020 6:52:31 AM
Surr: 4-Bromofluorobenzene	97.2	70-130		%Rec	1	12/17/2020 6:52:31 AM
Surr: Dibromofluoromethane	107	70-130		%Rec	1	12/17/2020 6:52:31 AM
Surr: Toluene-d8	95.2	70-130		%Rec	1	12/17/2020 6:52:31 AM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: DJF
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/17/2020 6:52:31 AM
Surr: BFB	99.1	70-130		%Rec	1	12/17/2020 6:52:31 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-07

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 11:40:00 AM

Lab ID: 2012615-022

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/15/2020 2:18:04 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/15/2020 2:18:04 PM
Surr: DNOP	83.2	30.4-154		%Rec	1	12/15/2020 2:18:04 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	150	60		mg/Kg	20	12/17/2020 11:11:33 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: DJF
Benzene	ND	0.023		mg/Kg	1	12/17/2020 1:16:16 PM
Toluene	ND	0.047		mg/Kg	1	12/17/2020 1:16:16 PM
Ethylbenzene	ND	0.047		mg/Kg	1	12/17/2020 1:16:16 PM
Xylenes, Total	ND	0.094		mg/Kg	1	12/17/2020 1:16:16 PM
Surr: 1,2-Dichloroethane-d4	91.1	70-130		%Rec	1	12/17/2020 1:16:16 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/17/2020 1:16:16 PM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	12/17/2020 1:16:16 PM
Surr: Toluene-d8	94.3	70-130		%Rec	1	12/17/2020 1:16:16 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/17/2020 1:16:16 PM
Surr: BFB	97.5	70-130		%Rec	1	12/17/2020 1:16:16 PM

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

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

Analytical Report

Lab Order 2012615

Date Reported: 12/18/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-08

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 11:45:00 AM

Lab ID: 2012615-023

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/15/2020 2:47:16 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/15/2020 2:47:16 PM
Surr: DNOP	58.1	30.4-154		%Rec	1	12/15/2020 2:47:16 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	70	60		mg/Kg	20	12/17/2020 11:23:57 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	12/17/2020 4:00:08 PM
Toluene	ND	0.050		mg/Kg	1	12/17/2020 4:00:08 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/17/2020 4:00:08 PM
Xylenes, Total	ND	0.10		mg/Kg	1	12/17/2020 4:00:08 PM
Surr: 1,2-Dichloroethane-d4	92.7	70-130		%Rec	1	12/17/2020 4:00:08 PM
Surr: 4-Bromofluorobenzene	99.3	70-130		%Rec	1	12/17/2020 4:00:08 PM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	12/17/2020 4:00:08 PM
Surr: Toluene-d8	93.8	70-130		%Rec	1	12/17/2020 4:00:08 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: DJF
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/17/2020 4:00:08 PM
Surr: BFB	98.4	70-130		%Rec	1	12/17/2020 4:00:08 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order **2012615**

Date Reported: **12/18/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-09

Project: Apache 25 Fed 9

Collection Date: 12/9/2020 11:50:00 AM

Lab ID: 2012615-024

Matrix: SOIL

Received Date: 12/11/2020 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/15/2020 2:56:56 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/15/2020 2:56:56 PM
Surr: DNOP	68.2	30.4-154		%Rec	1	12/15/2020 2:56:56 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	76	60		mg/Kg	20	12/18/2020 12:01:11 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	12/17/2020 4:27:26 PM
Toluene	ND	0.050		mg/Kg	1	12/17/2020 4:27:26 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/17/2020 4:27:26 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/17/2020 4:27:26 PM
Surr: 1,2-Dichloroethane-d4	95.6	70-130		%Rec	1	12/17/2020 4:27:26 PM
Surr: 4-Bromofluorobenzene	96.3	70-130		%Rec	1	12/17/2020 4:27:26 PM
Surr: Dibromofluoromethane	108	70-130		%Rec	1	12/17/2020 4:27:26 PM
Surr: Toluene-d8	96.2	70-130		%Rec	1	12/17/2020 4:27:26 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: DJF
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/17/2020 4:27:26 PM
Surr: BFB	102	70-130		%Rec	1	12/17/2020 4:27:26 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2012615

18-Dec-20

Client: Devon Energy
Project: Apache 25 Fed 9

Sample ID: MB-57069	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 57069	RunNo: 74079								
Prep Date: 12/17/2020	Analysis Date: 12/17/2020	SeqNo: 2614724	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-57069	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 57069	RunNo: 74079								
Prep Date: 12/17/2020	Analysis Date: 12/17/2020	SeqNo: 2614725	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.7	90	110			

Sample ID: MB-57080	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 57080	RunNo: 74079								
Prep Date: 12/17/2020	Analysis Date: 12/17/2020	SeqNo: 2614763	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-57080	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 57080	RunNo: 74079								
Prep Date: 12/17/2020	Analysis Date: 12/17/2020	SeqNo: 2614764	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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2012615

18-Dec-20

Client: Devon Energy
Project: Apache 25 Fed 9

Sample ID: LCS-56944	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 56944	RunNo: 73978								
Prep Date: 12/11/2020	Analysis Date: 12/12/2020	SeqNo: 2609491	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.1		5.000		81.9	30.4	154			

Sample ID: LCS-56946	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 56946	RunNo: 73978								
Prep Date: 12/11/2020	Analysis Date: 12/12/2020	SeqNo: 2609492	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.5	70	130			
Surr: DNOP	4.7		5.000		94.1	30.4	154			

Sample ID: MB-56944	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 56944	RunNo: 73978								
Prep Date: 12/11/2020	Analysis Date: 12/12/2020	SeqNo: 2609495	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.9		10.00		88.9	30.4	154			

Sample ID: MB-56946	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 56946	RunNo: 73978								
Prep Date: 12/11/2020	Analysis Date: 12/12/2020	SeqNo: 2609496	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.3		10.00		93.1	30.4	154			

Sample ID: MB-56953	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 56953	RunNo: 73991								
Prep Date: 12/12/2020	Analysis Date: 12/14/2020	SeqNo: 2610015	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		115	30.4	154			

Sample ID: MB-56954	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 56954	RunNo: 73991								
Prep Date: 12/12/2020	Analysis Date: 12/14/2020	SeqNo: 2610016	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		10.00		42.2	30.4	154			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2012615

18-Dec-20

Client: Devon Energy
Project: Apache 25 Fed 9

Sample ID: MB-56960	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 56960	RunNo: 73991								
Prep Date: 12/12/2020	Analysis Date: 12/14/2020	SeqNo: 2610017	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		119	30.4	154			

Sample ID: MB-56963	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 56963	RunNo: 73991								
Prep Date: 12/12/2020	Analysis Date: 12/14/2020	SeqNo: 2610018	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		122	30.4	154			

Sample ID: LCS-56953	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 56953	RunNo: 73991								
Prep Date: 12/12/2020	Analysis Date: 12/14/2020	SeqNo: 2610019	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	6.0		5.000		120	30.4	154			

Sample ID: LCS-56954	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 56954	RunNo: 73991								
Prep Date: 12/12/2020	Analysis Date: 12/14/2020	SeqNo: 2610020	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.2		5.000		63.2	30.4	154			

Sample ID: LCS-56960	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 56960	RunNo: 73991								
Prep Date: 12/12/2020	Analysis Date: 12/14/2020	SeqNo: 2610021	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	64	10	50.00	0	128	70	130			
Surr: DNOP	6.5		5.000		129	30.4	154			

Sample ID: LCS-56963	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 56963	RunNo: 73991								
Prep Date: 12/12/2020	Analysis Date: 12/14/2020	SeqNo: 2610022	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		99.9	30.4	154			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2012615

18-Dec-20

Client: Devon Energy
Project: Apache 25 Fed 9

Sample ID: 2012615-022AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: WS20-07	Batch ID: 56962	RunNo: 74004								
Prep Date: 12/12/2020	Analysis Date: 12/15/2020	SeqNo: 2611577	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.7	48.69	0	85.5	15	184			
Surr: DNOP	3.0		4.869		61.7	30.4	154			

Sample ID: 2012615-022AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: WS20-07	Batch ID: 56962	RunNo: 74004								
Prep Date: 12/12/2020	Analysis Date: 12/15/2020	SeqNo: 2611578	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.7	48.64	0	90.1	15	184	5.16	23.9	
Surr: DNOP	3.3		4.864		67.0	30.4	154	0	0	

Sample ID: LCS-56958	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 56958	RunNo: 74004								
Prep Date: 12/12/2020	Analysis Date: 12/15/2020	SeqNo: 2611599	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.3		5.000		106	30.4	154			

Sample ID: LCS-56962	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 56962	RunNo: 74004								
Prep Date: 12/12/2020	Analysis Date: 12/15/2020	SeqNo: 2611601	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	115	70	130			
Surr: DNOP	6.9		5.000		138	30.4	154			

Sample ID: MB-56958	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 56958	RunNo: 74004								
Prep Date: 12/12/2020	Analysis Date: 12/15/2020	SeqNo: 2611603	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		116	30.4	154			

Sample ID: MB-56962	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 56962	RunNo: 74004								
Prep Date: 12/12/2020	Analysis Date: 12/15/2020	SeqNo: 2611604	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2012615

18-Dec-20

Client: Devon Energy
Project: Apache 25 Fed 9

Sample ID: MB-56962	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 56962	RunNo: 74004								
Prep Date: 12/12/2020	Analysis Date: 12/15/2020	SeqNo: 2611604	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	13		10.00		134	30.4	154			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2012615

18-Dec-20

Client: Devon Energy
Project: Apache 25 Fed 9

Sample ID: mb-56943	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 56943		RunNo: 74018							
Prep Date: 12/11/2020	Analysis Date: 12/15/2020		SeqNo: 2611606	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	870		1000		87.0	75.3	105			

Sample ID: ics-56943	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 56943		RunNo: 74018							
Prep Date: 12/11/2020	Analysis Date: 12/15/2020		SeqNo: 2611607	Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.2	72.5	106			
Surr: BFB	990		1000		98.5	75.3	105			

Sample ID: mb-56945	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 56945		RunNo: 74018							
Prep Date: 12/11/2020	Analysis Date: 12/15/2020		SeqNo: 2611630	Units: %Rec						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	920		1000		92.4	75.3	105			

Sample ID: ics-56945	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 56945		RunNo: 74018							
Prep Date: 12/11/2020	Analysis Date: 12/15/2020		SeqNo: 2611631	Units: %Rec						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		103	75.3	105			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2012615

18-Dec-20

Client: Devon Energy
Project: Apache 25 Fed 9

Sample ID: mb-56943	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 56943		RunNo: 74018							
Prep Date: 12/11/2020	Analysis Date: 12/15/2020		SeqNo: 2611651		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		89.6	80	120			

Sample ID: LCS-56943	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 56943		RunNo: 74018							
Prep Date: 12/11/2020	Analysis Date: 12/15/2020		SeqNo: 2611652		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	100	80	120			
Toluene	1.1	0.050	1.000	0	105	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	0.90		1.000		89.7	80	120			

Sample ID: mb-56945	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 56945		RunNo: 74018							
Prep Date: 12/11/2020	Analysis Date: 12/15/2020		SeqNo: 2611675		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.91		1.000		91.2	80	120			

Sample ID: LCS-56945	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 56945		RunNo: 74018							
Prep Date: 12/11/2020	Analysis Date: 12/15/2020		SeqNo: 2611676		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.93		1.000		93.0	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2012615

18-Dec-20

Client: Devon Energy
Project: Apache 25 Fed 9

Sample ID: mb-56957	SampType: MBLK	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: PBS	Batch ID: 56957	RunNo: 74024								
Prep Date: 12/12/2020	Analysis Date: 12/16/2020	SeqNo: 2612043	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	0.47		0.5000		93.4	70	130			
Surr: 4-Bromofluorobenzene	0.56		0.5000		112	70	130			
Surr: Dibromofluoromethane	0.57		0.5000		115	70	130			
Surr: Toluene-d8	0.46		0.5000		91.5	70	130			

Sample ID: ics-56957	SampType: LCS4	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: BatchQC	Batch ID: 56957	RunNo: 74024								
Prep Date: 12/12/2020	Analysis Date: 12/16/2020	SeqNo: 2612044	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	105	80	120			
Toluene	0.94	0.050	1.000	0	94.5	80	120			
Ethylbenzene	0.92	0.050	1.000	0	92.0	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.1	80	120			
Surr: 1,2-Dichloroethane-d4	0.45		0.5000		90.4	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		105	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		109	70	130			
Surr: Toluene-d8	0.46		0.5000		92.1	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2012615

18-Dec-20

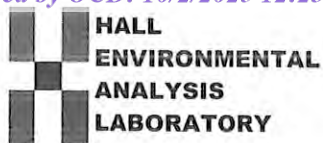
Client: Devon Energy
Project: Apache 25 Fed 9

Sample ID: mb-56957	SampType: MBLK	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: PBS	Batch ID: 56957	RunNo: 74024								
Prep Date: 12/12/2020	Analysis Date: 12/16/2020	SeqNo: 2612056	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		97.4	70	130			

Sample ID: lcs-56957	SampType: LCS	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: LCSS	Batch ID: 56957	RunNo: 74024								
Prep Date: 12/12/2020	Analysis Date: 12/16/2020	SeqNo: 2612057	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	25.00	0	78.2	70	130			
Surr: BFB	460		500.0		93.0	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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit



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

Sample Log-In Check List

Client Name: Devon Energy

Work Order Number: 2012615

RcptNo: 1

Received By: Cheyenne Cason 12/11/2020 8:00:00 AM

Completed By: Desiree Dominguez 12/11/2020 9:37:45 AM

Reviewed By: JR 12/11/20

Handwritten initials: JD

Chain of Custody

- 1. Is Chain of Custody complete? Yes [checked] No [] Not Present []
2. How was the sample delivered? Courier

Log In

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

of preserved bottles checked for pH: (≤2 or >12 unless noted) Adjusted? Checked by: SGL 12/11/20

Special Handling (if applicable)

- 15. Was client notified of all discrepancies with this order? Yes [] No [] NA [checked]

Person Notified: [] Date: []
By Whom: [] Via: [] eMail [] Phone [] Fax [] In Person []
Regarding: []
Client Instructions: []

16. Additional remarks:

17. Cooler Information

Table with 7 columns: Cooler No, Temp °C, Condition, Seal Intact, Seal No, Seal Date, Signed By. Rows 1-4.

Chain-of-Custody Record

Client: Reyon

Mailing Address: on file

Phone #:

email or Fax#:

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

Accreditation: Az Compliance
 NELAC Other _____

EDD (Type) _____

Turn-Around Time: 5-day
 Standard Rush

Project Name: Apache 25 Fed 9

Project #: 20E-00141

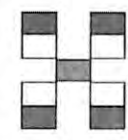
Project Manager: Natalie Gordon

Sampler: J.R

On Ice: Yes No

of Coolers: 4

Cooler Temp (including CF): See Remarks (°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.	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)
12-9	9:25	1'	BS20-01	40Z	ice	-001										
	9:30	1'	BS20-02			-002										
	9:40	1'	BS20-03			-003										
	9:45	2'	BS20-04			-004										
	9:50	2'	BS20-05			-005										
	10:00	1'	BS20-06			-006										
	10:15	1'	BS20-07			-007										
	10:20	1'	BS20-08			-008										
	10:25	1'	BS20-09			-009										
	10:30	1'	BS20-10			-010										
	10:35	1'	BS20-11			-011										
	10:40	1'	BS20-12			-012										

Date: 12/10 Time: 1900 Relinquished by: [Signature]

Received by: [Signature] Via: _____ Date: 12/10/20 Time: 1135

Received by: [Signature] Via: _____ Date: 12/10/20 Time: 0800

Remarks: WO# 20815830
5.5 ± 0 = 5.5
1.9 ± 0 = 1.9
2.1 ± 0 = 2.1
1.9 ± 0 = 1.9

CC: Natalie Gordon

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: Devon

Mailing Address: on file

Phone #:

email or Fax#:

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

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

Turn-Around Time: 5-day

Standard Rush

Project Name: Apache 25 Fed 9

Project #: 20E-001411

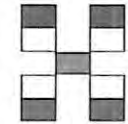
Project Manager: Natalie Gordon

Sampler: J.B.

On Ice: Yes No

of Coolers: 4

Cooler Temp (including CF): See frost page (°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.	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)
12-9	10:45	1'	B520-13	4oz	ice	-013										
	10:50	1'	B520-14			-014										
	10:55	1'	B520-15			-015										
	11:00	0-1'	W520-01			-016										
	11:05	0-1'	W520-02			-017										
	11:15	0-2'	W520-03			-018										
	11:20	0-2'	W520-04			-019										
	11:30	0-1'	W520-05			-020										
	11:35	0-1'	W520-06			-021										
	11:40	0-1'	W520-07			-022										
	11:45	0-1'	W520-08			-023										
	11:50	0-1'	W520-09			-024										

Date: _____ Time: _____ Relinquished by: _____

Received by: [Signature] Via: _____ Date: 12/10/20 Time: 1135

Remarks: WO# 20815830

Date: 12/10 Time: 1900 Relinquished by: [Signature]

Received by: [Signature] Via: _____ Date: 12/11/20 Time: 0500

CC: Natalie Gordon



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

January 14, 2021

Natalie Gordon

Devon Energy

6488 Seven Rivers Highway

Artesia, NM 88210

TEL: (505) 350-1336

FAX:

RE: Apache 25 Fed #09

OrderNo.: 2101344

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 2 sample(s) on 1/9/2021 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order **2101344**

Date Reported: **1/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-01 1'

Project: Apache 25 Fed #09

Collection Date: 1/6/2021 8:40:00 AM

Lab ID: 2101344-001

Matrix: SOIL

Received Date: 1/9/2021 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	23	9.9		mg/Kg	1	1/12/2021 5:29:31 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/12/2021 5:29:31 PM
Surr: DNOP	87.2	30.4-154		%Rec	1	1/12/2021 5:29:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/11/2021 11:00:28 PM
Surr: BFB	101	75.3-105		%Rec	1	1/11/2021 11:00:28 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	1/11/2021 11:00:28 PM
Toluene	ND	0.050		mg/Kg	1	1/11/2021 11:00:28 PM
Ethylbenzene	ND	0.050		mg/Kg	1	1/11/2021 11:00:28 PM
Xylenes, Total	ND	0.099		mg/Kg	1	1/11/2021 11:00:28 PM
Surr: 4-Bromofluorobenzene	99.8	80-120		%Rec	1	1/11/2021 11:00:28 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	61		mg/Kg	20	1/13/2021 2:30:34 PM

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

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

Analytical Report

Lab Order **2101344**

Date Reported: **1/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-02 0-0.5'

Project: Apache 25 Fed #09

Collection Date: 1/6/2021 8:45:00 AM

Lab ID: 2101344-002

Matrix: SOIL

Received Date: 1/9/2021 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	1/12/2021 6:41:23 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/12/2021 6:41:23 PM
Surr: DNOP	88.8	30.4-154		%Rec	1	1/12/2021 6:41:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/11/2021 11:24:03 PM
Surr: BFB	102	75.3-105		%Rec	1	1/11/2021 11:24:03 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	1/11/2021 11:24:03 PM
Toluene	ND	0.049		mg/Kg	1	1/11/2021 11:24:03 PM
Ethylbenzene	ND	0.049		mg/Kg	1	1/11/2021 11:24:03 PM
Xylenes, Total	ND	0.097		mg/Kg	1	1/11/2021 11:24:03 PM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	1/11/2021 11:24:03 PM
EPA METHOD 300.0: ANIONS						Analyst: VP
Chloride	ND	60		mg/Kg	20	1/13/2021 3:32:39 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 Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2101344

14-Jan-21

Client: Devon Energy
Project: Apache 25 Fed #09

Sample ID: MB-57517	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 57517	RunNo: 74587								
Prep Date: 1/13/2021	Analysis Date: 1/13/2021	SeqNo: 2633298	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-57517	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 57517	RunNo: 74587								
Prep Date: 1/13/2021	Analysis Date: 1/13/2021	SeqNo: 2633299	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.9	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2101344

14-Jan-21

Client: Devon Energy
Project: Apache 25 Fed #09

Sample ID: LCS-57448	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 57448	RunNo: 74564								
Prep Date: 1/11/2021	Analysis Date: 1/12/2021	SeqNo: 2631924	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.9		5.000		117	30.4	154			

Sample ID: MB-57448	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 57448	RunNo: 74564								
Prep Date: 1/11/2021	Analysis Date: 1/12/2021	SeqNo: 2631926	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	13		10.00		125	30.4	154			

Sample ID: 2101344-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BS20-01 1'	Batch ID: 57446	RunNo: 74564								
Prep Date: 1/11/2021	Analysis Date: 1/12/2021	SeqNo: 2632976	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	83	9.7	48.50	22.61	125	15	184			
Surr: DNOP	5.7		4.850		118	30.4	154			

Sample ID: 2101344-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BS20-01 1'	Batch ID: 57446	RunNo: 74564								
Prep Date: 1/11/2021	Analysis Date: 1/12/2021	SeqNo: 2632977	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	82	9.6	47.89	22.61	124	15	184	1.26	23.9	
Surr: DNOP	5.5		4.789		115	30.4	154	0	0	

Sample ID: LCS-57446	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 57446	RunNo: 74564								
Prep Date: 1/11/2021	Analysis Date: 1/12/2021	SeqNo: 2633015	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	10	50.00	0	119	68.9	141			
Surr: DNOP	5.5		5.000		110	30.4	154			

Sample ID: MB-57446	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 57446	RunNo: 74564								
Prep Date: 1/11/2021	Analysis Date: 1/12/2021	SeqNo: 2633016	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2101344

14-Jan-21

Client: Devon Energy
Project: Apache 25 Fed #09

Sample ID: MB-57446	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 57446	RunNo: 74564								
Prep Date: 1/11/2021	Analysis Date: 1/12/2021	SeqNo: 2633016	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		116	30.4	154			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2101344

14-Jan-21

Client: Devon Energy
Project: Apache 25 Fed #09

Sample ID: mb-57438	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 57438	RunNo: 74532								
Prep Date: 1/9/2021	Analysis Date: 1/11/2021	SeqNo: 2631150	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	75.3	105			S

Sample ID: lcs-57438	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 57438	RunNo: 74532								
Prep Date: 1/9/2021	Analysis Date: 1/11/2021	SeqNo: 2631151	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	103	72.5	106			
Surr: BFB	1200		1000		116	75.3	105			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 Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2101344

14-Jan-21

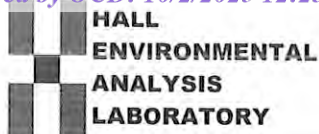
Client: Devon Energy
Project: Apache 25 Fed #09

Sample ID: mb-57438	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 57438	RunNo: 74532								
Prep Date: 1/9/2021	Analysis Date: 1/11/2021	SeqNo: 2631200	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	1.0		1.000		104	80	120			

Sample ID: LCS-57438	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 57438	RunNo: 74532								
Prep Date: 1/9/2021	Analysis Date: 1/11/2021	SeqNo: 2631201	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	0.98	0.050	1.000	0	98.0	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.9	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.3	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Qualifiers:

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



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

Sample Log-In Check List

Client Name: Devon Energy Work Order Number: 2101344 RcptNo: 1

Received By: Emily Mocho 1/9/2021 8:40:00 AM

Completed By: Emily Mocho 1/9/2021 9:25:56 AM

Reviewed By: DF 1/9/2021

Chain of Custody

- 1. Is Chain of Custody complete? Yes [checked] No [] Not Present []
2. How was the sample delivered? Courier

Log In

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

of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by: EM 1/9/21

Special Handling (if applicable)

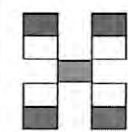
- 15. Was client notified of all discrepancies with this order? Yes [] No [] NA [checked]

Person Notified: [] Date: []
By Whom: [] Via: [] eMail [] Phone [] Fax [] In Person []
Regarding: []
Client Instructions: []

16. Additional remarks:

17. Cooler Information

Table with 7 columns: Cooler No, Temp °C, Condition, Seal Intact, Seal No, Seal Date, Signed By. Row 1: 1, 2.2, Good, [], [], [], []



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Chain-of-Custody Record

Client: Devon

Mailing Address: on file

Phone #: _____

email or Fax#: _____

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

Accreditation: Az Compliance
 NELAC Other _____

EDD (Type) _____

Turn-Around Time: 5-day

Standard Rush

Project Name: Apache 25 Fed #09

Project #: 20E-00141-053

Project Manager: Natalie Gordon

Sampler: JR

On Ice: Yes No

of Coolers: 1

Cooler Temp (including CF): 2.9 - 0.2 - 22 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
1-6	4:40	Soil	BS20-01 1'	4oz	ice	001
	↓ 4:45		WS20-020-0.5'	1	1	002

Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
1	1					1			

Date: _____ Time: _____ Relinquished by: _____

Received by: Imaging Via: _____ Date: 1/8/21 Time: 0850

Remarks: CC: Natalie Gordon

Date: 1/8/21 Time: 1900 Relinquished by: Imaging

Received by: Em Courier Via: _____ Date: 1/9/21 Time: 840

WO# 20779806

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.



Environment Testing

- 1
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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Kent Stallings
 Vertex
 3101 Boyd Dr
 Carlsbad, New Mexico 88220

Generated 8/22/2025 4:33:11 PM

JOB DESCRIPTION

Apache 25 Federal #009

JOB NUMBER

885-31123-1

Eurofins Albuquerque
 4901 Hawkins NE
 Albuquerque NM 87109



Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



Generated
8/22/2025 4:33:11 PM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Apache 25 Federal #009

Laboratory Job ID: 885-31123-1



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Definitions/Glossary

Client: Vertex
Project/Site: Apache 25 Federal #009

Job ID: 885-31123-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Apache 25 Federal #009

Job ID: 885-31123-1

Job ID: 885-31123-1

Eurofins Albuquerque

Job Narrative 885-31123-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The samples were received on 8/15/2025 7:40 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.5°C.

Gasoline Range Organics

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Albuquerque



Client Sample Results

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-31123-1

Client Sample ID: WS25-10 0-2'

Lab Sample ID: 885-31123-1

Date Collected: 08/13/25 08:30

Matrix: Solid

Date Received: 08/15/25 07:40

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.7	mg/Kg		08/15/25 13:06	08/21/25 09:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		15 - 150			08/15/25 13:06	08/21/25 09:28	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		08/15/25 13:06	08/21/25 09:28	1
Ethylbenzene	ND		0.047	mg/Kg		08/15/25 13:06	08/21/25 09:28	1
Toluene	ND		0.047	mg/Kg		08/15/25 13:06	08/21/25 09:28	1
Xylenes, Total	ND		0.095	mg/Kg		08/15/25 13:06	08/21/25 09:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		15 - 150			08/15/25 13:06	08/21/25 09:28	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4	mg/Kg		08/21/25 10:00	08/21/25 16:32	1
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		08/21/25 10:00	08/21/25 16:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	112		62 - 134			08/21/25 10:00	08/21/25 16:32	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	410		60	mg/Kg		08/18/25 12:39	08/18/25 16:51	20

Eurofins Albuquerque

Client Sample Results

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-31123-1

Client Sample ID: BS25-16 2'

Lab Sample ID: 885-31123-2

Date Collected: 08/13/25 08:35

Matrix: Solid

Date Received: 08/15/25 07:40

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.8	mg/Kg		08/15/25 13:06	08/21/25 09:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		15 - 150			08/15/25 13:06	08/21/25 09:51	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		08/15/25 13:06	08/21/25 09:51	1
Ethylbenzene	ND		0.048	mg/Kg		08/15/25 13:06	08/21/25 09:51	1
Toluene	ND		0.048	mg/Kg		08/15/25 13:06	08/21/25 09:51	1
Xylenes, Total	ND		0.096	mg/Kg		08/15/25 13:06	08/21/25 09:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		15 - 150			08/15/25 13:06	08/21/25 09:51	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	67		9.5	mg/Kg		08/21/25 10:00	08/21/25 16:45	1
Motor Oil Range Organics [C28-C40]	150		48	mg/Kg		08/21/25 10:00	08/21/25 16:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	113		62 - 134			08/21/25 10:00	08/21/25 16:45	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	410		60	mg/Kg		08/18/25 12:39	08/18/25 17:21	20

Client Sample Results

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-31123-1

Client Sample ID: BS25-17 2'

Lab Sample ID: 885-31123-3

Date Collected: 08/13/25 11:00

Matrix: Solid

Date Received: 08/15/25 07:40

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.8	mg/Kg		08/15/25 13:06	08/21/25 10:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		15 - 150			08/15/25 13:06	08/21/25 10:15	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		08/15/25 13:06	08/21/25 10:15	1
Ethylbenzene	ND		0.048	mg/Kg		08/15/25 13:06	08/21/25 10:15	1
Toluene	ND		0.048	mg/Kg		08/15/25 13:06	08/21/25 10:15	1
Xylenes, Total	ND		0.096	mg/Kg		08/15/25 13:06	08/21/25 10:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		15 - 150			08/15/25 13:06	08/21/25 10:15	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	67		9.9	mg/Kg		08/21/25 10:00	08/21/25 16:57	1
Motor Oil Range Organics [C28-C40]	120		50	mg/Kg		08/21/25 10:00	08/21/25 16:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	101		62 - 134			08/21/25 10:00	08/21/25 16:57	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	430		60	mg/Kg		08/18/25 12:39	08/18/25 17:30	20

QC Sample Results

Client: Vertex
Project/Site: Apache 25 Federal #009

Job ID: 885-31123-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-32449/1-A
Matrix: Solid
Analysis Batch: 32908

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32449

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0	mg/Kg		08/15/25 13:06	08/21/25 03:11	1
Surrogate	%Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		15 - 150			08/15/25 13:06	08/21/25 03:11	1

Lab Sample ID: LCS 885-32449/2-A
Matrix: Solid
Analysis Batch: 32908

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32449

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	25.0	22.4		mg/Kg		89	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	189		15 - 150				

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-32449/1-A
Matrix: Solid
Analysis Batch: 32909

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32449

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		08/15/25 13:06	08/21/25 03:11	1
Ethylbenzene	ND		0.050	mg/Kg		08/15/25 13:06	08/21/25 03:11	1
Toluene	ND		0.050	mg/Kg		08/15/25 13:06	08/21/25 03:11	1
Xylenes, Total	ND		0.10	mg/Kg		08/15/25 13:06	08/21/25 03:11	1
Surrogate	%Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		15 - 150			08/15/25 13:06	08/21/25 03:11	1

Lab Sample ID: LCS 885-32449/3-A
Matrix: Solid
Analysis Batch: 32909

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32449

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	0.955		mg/Kg		96	70 - 130
Ethylbenzene	1.00	0.928		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	2.00	1.93		mg/Kg		97	70 - 130
o-Xylene	1.00	0.926		mg/Kg		93	70 - 130
Toluene	1.00	0.942		mg/Kg		94	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	92		15 - 150				

Eurofins Albuquerque

QC Sample Results

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-31123-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-32910/1-A
 Matrix: Solid
 Analysis Batch: 32904

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 32910

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		08/21/25 09:59	08/21/25 13:00	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		08/21/25 09:59	08/21/25 13:00	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	98		62 - 134			08/21/25 09:59	08/21/25 13:00	1

Lab Sample ID: LCS 885-32910/2-A
 Matrix: Solid
 Analysis Batch: 32904

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 32910

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	50.0	49.9		mg/Kg		100	51 - 148
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Di-n-octyl phthalate (Surr)	100		62 - 134				

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-32595/1-A
 Matrix: Solid
 Analysis Batch: 32575

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 32595

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5	mg/Kg		08/18/25 12:39	08/18/25 15:42	1
Surrogate	MB %Recovery	MB Qualifier	Limits					
Chloride	15.0		14.7	mg/Kg		98	90 - 110	

QC Association Summary

Client: Vertex
Project/Site: Apache 25 Federal #009

Job ID: 885-31123-1

GC VOA

Prep Batch: 32449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-31123-1	WS25-10 0-2'	Total/NA	Solid	5030C	
885-31123-2	BS25-16 2'	Total/NA	Solid	5030C	
885-31123-3	BS25-17 2'	Total/NA	Solid	5030C	
MB 885-32449/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-32449/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-32449/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 32908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-31123-1	WS25-10 0-2'	Total/NA	Solid	8015M/D	32449
885-31123-2	BS25-16 2'	Total/NA	Solid	8015M/D	32449
885-31123-3	BS25-17 2'	Total/NA	Solid	8015M/D	32449
MB 885-32449/1-A	Method Blank	Total/NA	Solid	8015M/D	32449
LCS 885-32449/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	32449

Analysis Batch: 32909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-31123-1	WS25-10 0-2'	Total/NA	Solid	8021B	32449
885-31123-2	BS25-16 2'	Total/NA	Solid	8021B	32449
885-31123-3	BS25-17 2'	Total/NA	Solid	8021B	32449
MB 885-32449/1-A	Method Blank	Total/NA	Solid	8021B	32449
LCS 885-32449/3-A	Lab Control Sample	Total/NA	Solid	8021B	32449

GC Semi VOA

Analysis Batch: 32904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-31123-1	WS25-10 0-2'	Total/NA	Solid	8015M/D	32910
885-31123-2	BS25-16 2'	Total/NA	Solid	8015M/D	32910
885-31123-3	BS25-17 2'	Total/NA	Solid	8015M/D	32910
MB 885-32910/1-A	Method Blank	Total/NA	Solid	8015M/D	32910
LCS 885-32910/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	32910

Prep Batch: 32910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-31123-1	WS25-10 0-2'	Total/NA	Solid	SHAKE	
885-31123-2	BS25-16 2'	Total/NA	Solid	SHAKE	
885-31123-3	BS25-17 2'	Total/NA	Solid	SHAKE	
MB 885-32910/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-32910/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

HPLC/IC

Analysis Batch: 32575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-31123-1	WS25-10 0-2'	Total/NA	Solid	300.0	32595
885-31123-2	BS25-16 2'	Total/NA	Solid	300.0	32595
885-31123-3	BS25-17 2'	Total/NA	Solid	300.0	32595
MB 885-32595/1-A	Method Blank	Total/NA	Solid	300.0	32595
LCS 885-32595/2-A	Lab Control Sample	Total/NA	Solid	300.0	32595

Eurofins Albuquerque

QC Association Summary

Client: Vertex
Project/Site: Apache 25 Federal #009

Job ID: 885-31123-1

HPLC/IC

Prep Batch: 32595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-31123-1	WS25-10 0-2'	Total/NA	Solid	300_Prep	
885-31123-2	BS25-16 2'	Total/NA	Solid	300_Prep	
885-31123-3	BS25-17 2'	Total/NA	Solid	300_Prep	
MB 885-32595/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-32595/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Lab Chronicle

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-31123-1

Client Sample ID: WS25-10 0-2'

Lab Sample ID: 885-31123-1

Date Collected: 08/13/25 08:30

Matrix: Solid

Date Received: 08/15/25 07:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			32449	KLS	EET ALB	08/15/25 13:06
Total/NA	Analysis	8015M/D		1	32908	JP	EET ALB	08/21/25 09:28
Total/NA	Prep	5030C			32449	KLS	EET ALB	08/15/25 13:06
Total/NA	Analysis	8021B		1	32909	JP	EET ALB	08/21/25 09:28
Total/NA	Prep	SHAKE			32910	BZR	EET ALB	08/21/25 10:00
Total/NA	Analysis	8015M/D		1	32904	EM	EET ALB	08/21/25 16:32
Total/NA	Prep	300_Prep			32595	MA	EET ALB	08/18/25 12:39
Total/NA	Analysis	300.0		20	32575	MA	EET ALB	08/18/25 16:51

Client Sample ID: BS25-16 2'

Lab Sample ID: 885-31123-2

Date Collected: 08/13/25 08:35

Matrix: Solid

Date Received: 08/15/25 07:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			32449	KLS	EET ALB	08/15/25 13:06
Total/NA	Analysis	8015M/D		1	32908	JP	EET ALB	08/21/25 09:51
Total/NA	Prep	5030C			32449	KLS	EET ALB	08/15/25 13:06
Total/NA	Analysis	8021B		1	32909	JP	EET ALB	08/21/25 09:51
Total/NA	Prep	SHAKE			32910	BZR	EET ALB	08/21/25 10:00
Total/NA	Analysis	8015M/D		1	32904	EM	EET ALB	08/21/25 16:45
Total/NA	Prep	300_Prep			32595	MA	EET ALB	08/18/25 12:39
Total/NA	Analysis	300.0		20	32575	MA	EET ALB	08/18/25 17:21

Client Sample ID: BS25-17 2'

Lab Sample ID: 885-31123-3

Date Collected: 08/13/25 11:00

Matrix: Solid

Date Received: 08/15/25 07:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			32449	KLS	EET ALB	08/15/25 13:06
Total/NA	Analysis	8015M/D		1	32908	JP	EET ALB	08/21/25 10:15
Total/NA	Prep	5030C			32449	KLS	EET ALB	08/15/25 13:06
Total/NA	Analysis	8021B		1	32909	JP	EET ALB	08/21/25 10:15
Total/NA	Prep	SHAKE			32910	BZR	EET ALB	08/21/25 10:00
Total/NA	Analysis	8015M/D		1	32904	EM	EET ALB	08/21/25 16:57
Total/NA	Prep	300_Prep			32595	MA	EET ALB	08/18/25 12:39
Total/NA	Analysis	300.0		20	32575	MA	EET ALB	08/18/25 17:30

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex
 Project/Site: Apache 25 Federal #009

Job ID: 885-31123-1

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-27-26
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015M/D	5030C	Solid	Gasoline Range Organics (GRO)-C6-C10
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total
Oregon	NELAP	NM100001	02-26-26



Login Sample Receipt Checklist

Client: Vertex

Job Number: 885-31123-1

Login Number: 31123

List Source: Eurofins Albuquerque

List Number: 1

Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS

Action 509114

QUESTIONS

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 509114
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAB1803838673
Incident Name	NAB1803838673 APACHE 25 FEDERAL #009 @ 30-015-32797
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-015-32797] APACHE 25 FEDERAL #009

Location of Release Source	
<i>Please answer all the questions in this group.</i>	
Site Name	APACHE 25 FEDERAL #009
Date Release Discovered	01/23/2018
Surface Owner	Federal

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

Nature and Volume of Release	
<i>Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.</i>	
Crude Oil Released (bbls) Details	Cause: Equipment Failure Flow Line - Production Crude Oil Released: 2 BBL Recovered: 2 BBL Lost: 0 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure Flow Line - Production Produced Water Released: 5 BBL Recovered: 2 BBL Lost: 3 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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

QUESTIONS, Page 2

Action 509114

QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 509114
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	No
Reasons why this would be considered a submission for a notification of a major release	<i>Unavailable.</i>

With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.

Initial Response

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

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	<i>Not answered.</i>

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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

I hereby agree and sign off to the above statement	Name: Roni Kidd Title: Business Manager Email: rkidd@buckhornproduction.com Date: 09/30/2025
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
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Santa Fe, NM 87505

QUESTIONS, Page 3

Action 509114

QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 509114
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 26 and 50 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Greater than 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between ½ and 1 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride (EPA 300.0 or SM4500 Cl B)	1400
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	7400
GRO+DRO (EPA SW-846 Method 8015M)	4000
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

On what estimated date will the remediation commence	05/09/2025
On what date will (or did) the final sampling or liner inspection occur	07/15/2025
On what date will (or was) the remediation complete(d)	07/15/2025
What is the estimated surface area (in square feet) that will be reclaimed	3197
What is the estimated volume (in cubic yards) that will be reclaimed	142
What is the estimated surface area (in square feet) that will be remediated	3197
What is the estimated volume (in cubic yards) that will be remediated	142

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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

General Information
Phone: (505) 629-6116

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

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

QUESTIONS, Page 4

Action 509114

QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 509114
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:

(Select all answers below that apply.)

(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	fEEM0112334510 HALFWAY DISPOSAL AND LANDFILL
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	No
OR is the off-site disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

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

I hereby agree and sign off to the above statement	Name: Roni Kidd Title: Business Manager Email: rkidd@buckhornproduction.com Date: 09/30/2025
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The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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QUESTIONS, Page 5

Action 509114

QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 509114
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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QUESTIONS, Page 6

Action 509114

QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 509114
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	502583
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	09/08/2025
What was the (estimated) number of samples that were to be gathered	2
What was the sampling surface area in square feet	400

Remediation Closure Request	
<i>Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.</i>	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	3198
What was the total volume (cubic yards) remediated	146
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	3198
What was the total volume (in cubic yards) reclaimed	146
Summarize any additional remediation activities not included by answers (above)	As detailed in attached report.

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

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

I hereby agree and sign off to the above statement	Name: Roni Kidd Title: Business Manager Email: rkidd@buckhornproduction.com Date: 09/30/2025
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QUESTIONS, Page 7

Action 509114

QUESTIONS (continued)

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 509114
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
<i>Only answer the questions in this group if all reclamation steps have been completed.</i>	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 509114

CONDITIONS

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 509114
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #nAB1803838673 APACHE 25 FEDERAL #009, thank you. This Remediation Closure Report is approved.	11/14/2025