Incident ID	nAPP2317136603
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>55 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2317136603
District RP	
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Application ID	

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

Printed Name: Dale Woodall Title: Env. Professional

Signature: Dale Woodall Date: 11/1/2023

email: dale.woodall@dvn.com Telephone: 575-748-1838

OCD Only

Received by: Shelly Wells Date: 11/1/2023

Incident ID	nAPP2317136603
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☐ Extents of contamination must be fully delineated.

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

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Printed Name: Dale Woodall Title: Env. Professional

Signature: Dale Woodall Date: 11/1/2023

email: dale.woodall@dvn.com Telephone: 575-748-1838

OCD Only

Received by: Shelly Wells Date: 11/1/2023

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

Signature: Date:

General Information

NMOCD District:	District 2	Incident ID:	nAPP2317136603
Landowner:	Federal	RP Reference:	N/A
Client:	Devon Energy Production Company, LP	Site Location:	Hackberry 18 Federal 2 Battery
Date:	September 15, 2023	Project #:	23E-03903
Client Contact:	Dale Woodall	Phone #:	405.318.4697
Vertex PM:	Kent Stallings	Phone #:	346.814.1413

Objective

The objective of the environmental remediation work plan is to identify exceedances found during the site assessment and characterization activity and propose an appropriate remediation technique to address these areas. Areas of environmental concern identified and delineated include along the northwest edge of the pad and off the pad of the Hackberry 18 Federal 2 Battery. The incident occurred when a 3-inch poly line developed a pin hole and ruptured, releasing 8.8 barrels (bbls) of produced water onto the northwest side of the pad and off-site; 1 bbls was recovered. Closure criteria have been selected as per New Mexico Administrative Code (NMAC) 19.15.29. All applicable research as it pertains to closure criteria selection, including reference well CP-01907 POD 1, is presented in Attachment 1. The closure criteria for the site on-pad are presented below in Table 1.

Table 1. Closure Criteria for Soils Impacted by a Release

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

TDS – Total dissolved solids

TPH – Total petroleum hydrocarbons = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)

BTEX – Benzene, toluene, ethylbenzene, and xylenes

The closure criteria for the site off-pad are presented below in Table 2.

Table 2. Closure Criteria for Soils to Remediation & Reclamation Standards		
	Constituent	**Limit**
0-4 feet bgs (19.15.29.13)	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
DTGW 51-100 feet (19.15.29.12)	Chloride	10,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

bgs – Below ground surface
DTGW – Depth to groundwater
TPH – Total petroleum hydrocarbons = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)
BTEX – Benzene, toluene, ethylbenzene, and xylenes

Site Assessment/Characterization

Site characterization was compared to the strictest criteria as per NMAC 19.15.2 and completed on August 20, 2023. A total of 22 sample points were established and 47 samples collected for field screening. All 47 samples, including at the deepest vertical distance below closure criteria, were submitted to the laboratory for analysis. Samples were submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, for analysis. The sample locations are presented in Attachment 2. Laboratory analysis results have been compared to the above noted closure criteria and the results from the characterization activity are presented in Attachment 3. Exceedances are identified in the table as bold with a grey background and bold with a green background for off-pad criteria.

Remedial Activities

General

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

nAPP2317136603 (06-19-2023) – Release from Poly Line along Edge of Pad

A total of 22 sample points were established for analysis along the north and northwest edge of the pad and off the pad. Exceedances to closure criteria were found at sample points BH23-12, BH23-13, BH23-18 above 2 feet and at BH23-19 at 2 feet. A 0.5 foot scrape will be completed around BH23-12 and BH23-13 to address staining. The sample locations and proposed excavation locations are presented in Attachment 2. Heavy equipment will be used to complete excavation in open areas and hand crews will be used to complete excavation next to equipment or lines that is deemed unsafe. A hydrovac truck will be utilized to identify any lines that may be within the area of contaminated soil in close proximity to lines. Confirmatory samples, including discrete sampling in the scraped, stained areas, will be collected as per New Mexico Oil Conservation Division guidance and submitted for laboratory analysis of all applicable parameters. The estimated volume to be excavated is approximately **217 cubic yards.**

Sample Point	Excavation Depth	Remediation Method
BH23-12	1'-2'	Backhoe/Handcrew
BH23-13	1'-2'	Backhoe/Handcrew
BH23-18	1'-2'	Backhoe
BH23-19	3'	Backhoe
Around BH23-12 & BH23-13	0.5'	Backhoe

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

Stephanie McCarty

Stephanie McCarty, B.Sc.
ENVIRONMENTAL TECHNICIAN, REPORTING

September 15, 2023
Date

Kent Stallings P.G.

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

September 15, 2023
Date

Attachments

Attachment 1. Closure Criteria Research
Attachment 2. Characterization Sampling and Proposed Excavation Site Schematic
Attachment 3. Laboratory Results Table and Laboratory Data 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 Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

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

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

Unit Letter	Section	Township	Range	County

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

Nature and Volume of Release

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☐ The source of the release has been stopped.
- ☐ The impacted area has been secured to protect human health and the environment.
- ☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☐ All free liquids and recoverable materials have been removed and managed appropriately.

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

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

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

Printed Name: Dale Woodall Title: Env. Professional

Signature: Dale Woodall Date: _____

email: dale.woodall@dvn.com Telephone: 575-748-1838

OCD Only

Received by: Shelly Wells Date: 6/23/2023

Incident ID	nAPP2317136603
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>55 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2317136603
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Printed Name: Dale Woodall Title: Env. Professional

Signature: Dale Woodall Date: 11/1/2023

email: dale.woodall@dvn.com Telephone: 575-748-1838

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2317136603
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☐ Extents of contamination must be fully delineated.

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

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Printed Name: Dale Woodall Title: Env. Professional

Signature: Dale Woodall Date: 11/1/2023

email: dale.woodall@dvn.com Telephone: 575-748-1838

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

ATTACHMENT 1

Closure Criteria Worksheet			
Site Name: Hackberry 18 Fed 2			
Spill Coordinates: 32.66565861, -103.9104969			
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	>55	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	7,645	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	4,772	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	18,007	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**	7,992	feet
	ii) Within 1000 feet of any fresh water well or spring		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	4,936	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Medium	Critical High Medium Low
10	Within a 100-year Floodplain	No	>500 year
11	Soil Type	Berino loamy fine sand	
12	Ecological Classification	loamy	
13	Geology	Qep	
NMAC 19.15.29.12 E (Table 1) Closure Criteria		51-100'	<50' 51-100' >100'

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

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

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

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

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 01907 POD1		CP	ED	4	2	2	18	19S	31E	603017	3614737	855			
CP 00873 POD1		CP	LE		1	1	19	19S	31E	601772	3613147*	1646	340	180	160
CP 01943 POD1		CP	ED	1	3	1	20	19S	31E	603217	3612883	2141	55		
CP 00357 POD1		CP	ED	4	4	1	24	19S	30E	600667	3612631*	2590	630		
CP 00357 POD2		CP	ED	4	3	1	24	19S	30E	600265	3612627*	2844	630		
CP 00722 POD2		CP	ED	2	1	1	25	19S	30E	600276	3611620*	3651	350	65	285
CP 00647 POD1	O	CP	ED	4	2	2	15	19S	30E	598235	3614621*	3929	200	92	108
CP 01941 POD1		CP	ED	3	2	2	29	19S	31E	604524	3611512	4005	55	54	1
CP 00829 POD1		CP	LE		2	4	16	19S	31E	606165	3614009*	4070	120		
CP 00822 POD1		CP	LE		4	4	15	19S	30E	598148	3613516*	4198	90		

Average Depth to Water: **97 feet**
Minimum Depth: **54 feet**
Maximum Depth: **180 feet**

Record Count: 10

UTMNAD83 Radius Search (in meters):

Easting (X): 602162 **Northing (Y):** 3614747 **Radius:** 5000

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

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD 1 (TW-1)	N/A	CP-1907

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Devon Energy	575-748-1838

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
6488 7 Rivers Hwy	Artesia	NM	88210

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	39	55.76	N
	LONGITUDE	103	54	4.95	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

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

SE NE NE Sec.18 T19S R31S NMPM

2. DRILLING & CASING INFORMATION

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

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
7/13/2022	7/13/2022	Temporary Well	±55	N/A

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

STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A

DATE STATIC MEASURED: 7/13/2022, 7/1/2022

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

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

CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	55	±6.5	Boring-HSA	--	--	--	--

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT

FOR OSE INTERNAL USE

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

FILE NO.	CP-1907 POD1 TW-1	POD NO.	1	TRN NO.	726167
LOCATION	19.31.18.422			WELL TAG ID NO.	—

PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	29	29	Sand, Medium/ Fine grained, poorly graded, Light brown	Y ✓ N	
29	44	15	Sand, Medium/ Fine grained, poorly graded, with caliche Light brown / white	Y ✓ N	
44	55	11	Sand, Medium/ Fine grained, poorly graded, Light brown	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

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

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

Shane Eldridge, Cameron Pruitt

6. SIGNATURE

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

Jack Atkins — Jackie D. Atkins — 8/4/2022

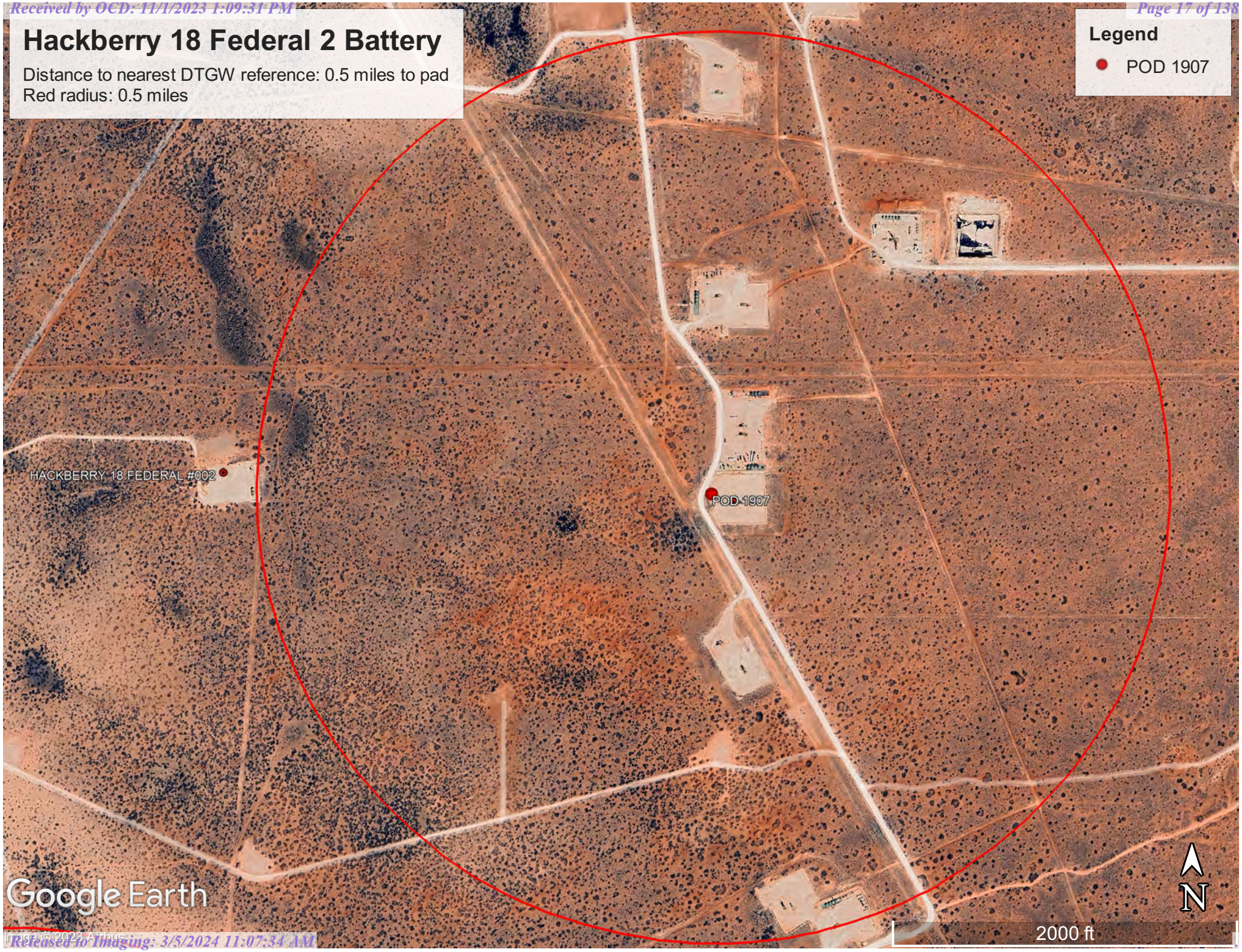
SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO. CP-1907-POD1 TW-1	POD NO. 1	TRN NO. 726167	
LOCATION 19.31.18.422		WELL TAG ID NO.	PAGE 2 OF 2

Hackberry 18 Federal 2 Battery

Distance to nearest DTGW reference: 0.5 miles to pad
Red radius: 0.5 miles



U.S. Fish and Wildlife Service
National Wetlands Inventory

02 - Hackberry 18 Fed 2 Battery - Watercourse: 7,645 feet away (1.45 miles)

June 30, 2023

Wetlands

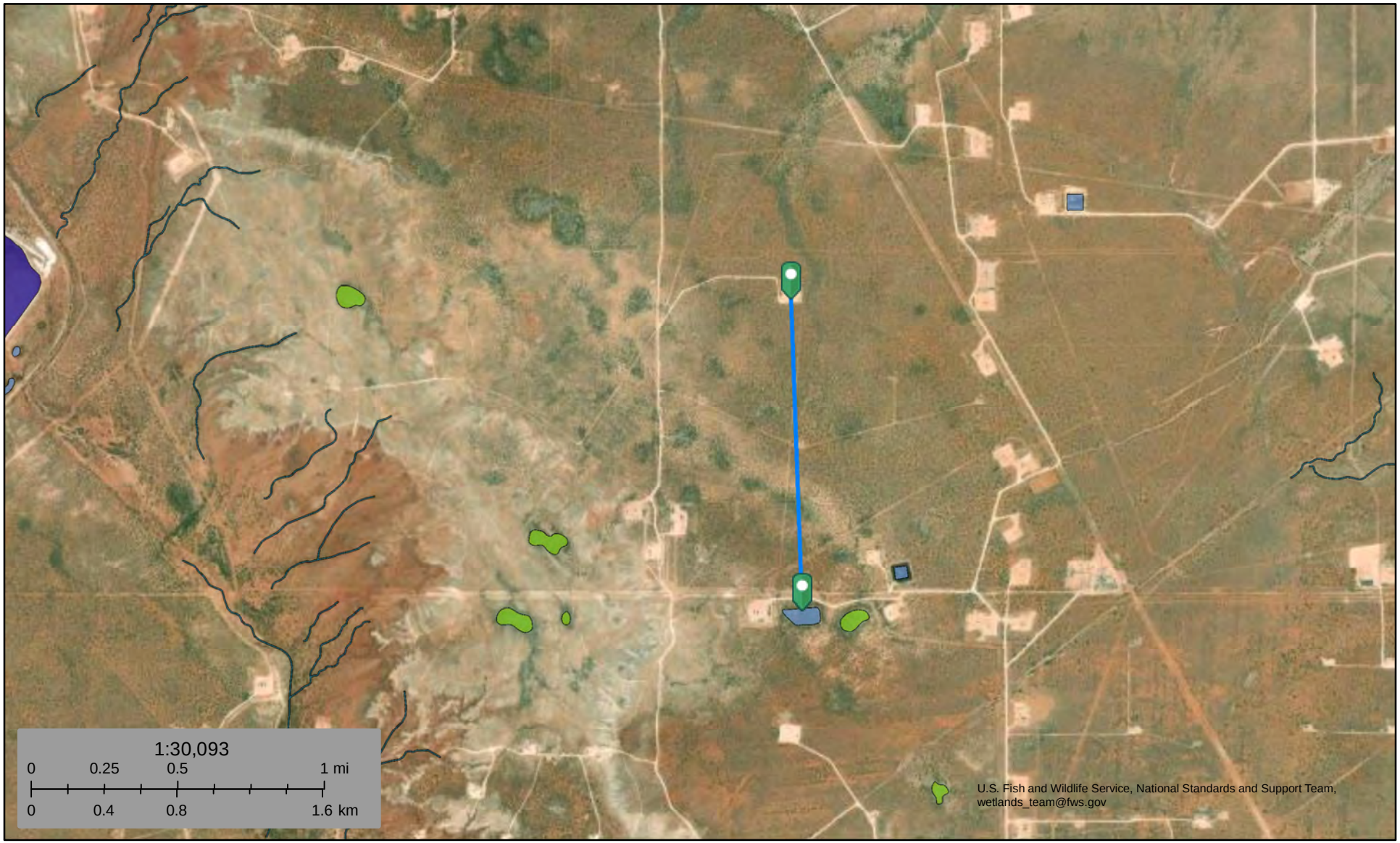
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

03 - Hackberry 18 Fed 2 Battery - Lakebed: 4,772 feet (0.89 miles)



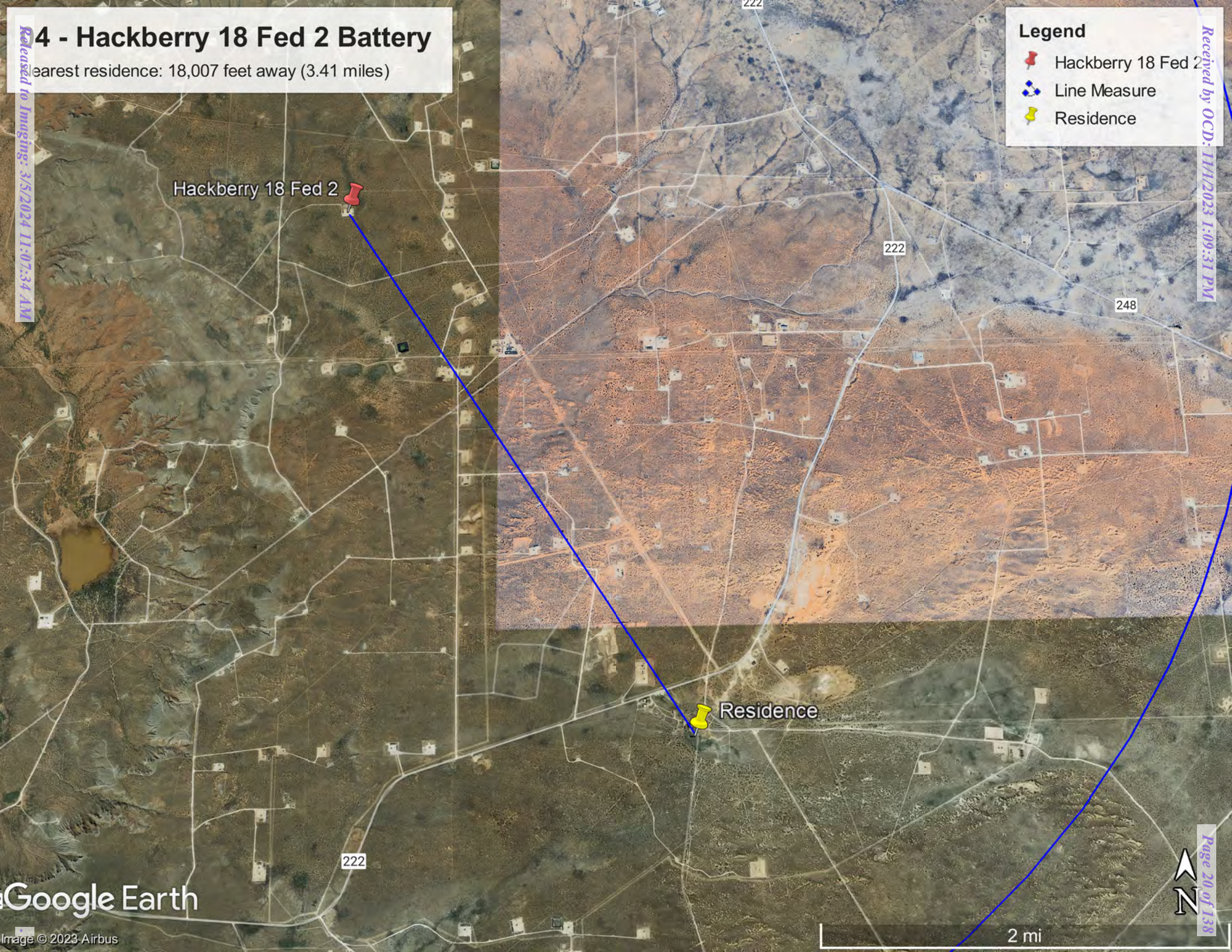
June 30, 2023

Wetlands

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

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

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



New Mexico Office of the State Engineer
Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	CP 01032 POD1	2	1	4	19	19S	31E	602600	3612362

Driller License: **Driller Company:**

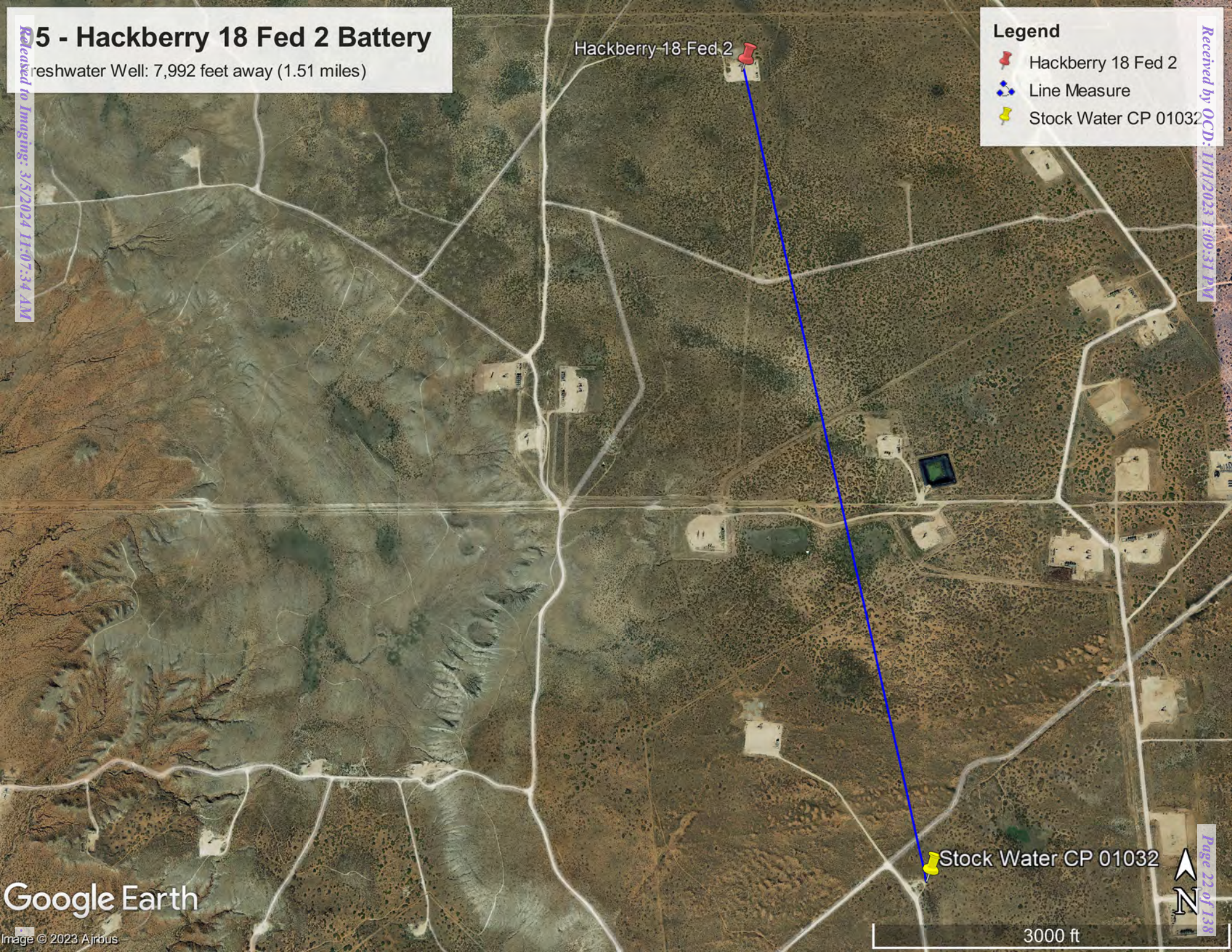
Driller Name:

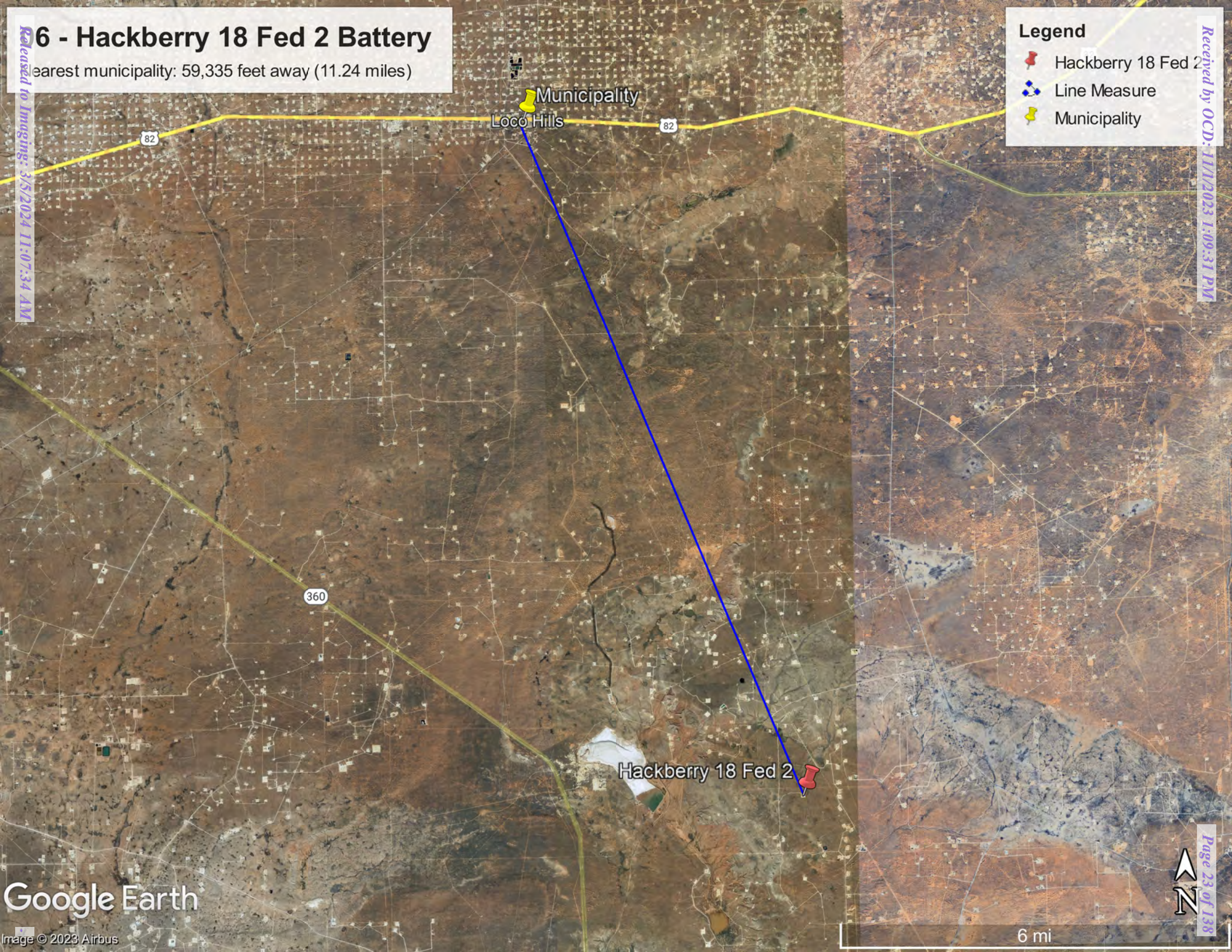
Drill Start Date: **Drill Finish Date:** **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

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

Casing Size: **Depth Well:** **Depth Water:**





U.S. Fish and Wildlife Service
National Wetlands Inventory

07 - Hackberry 18 Fed 2 Battery - Wetland: 4,936 feet (0.93 miles)

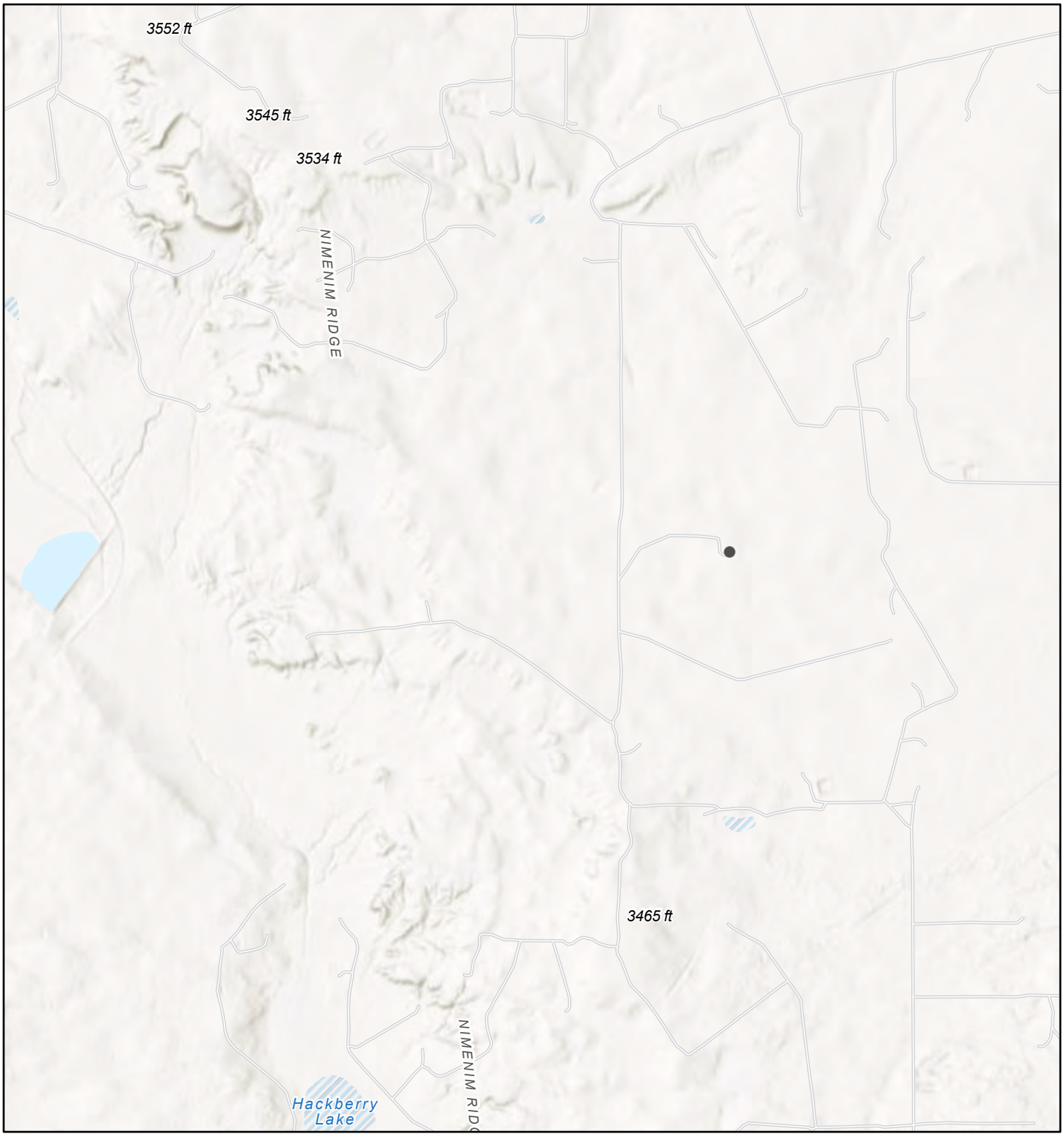
June 30, 2023

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.

08 - Hackberry 18 Fed 2 Battery - Mines



6/30/2023, 9:00:01 AM

1:36,112

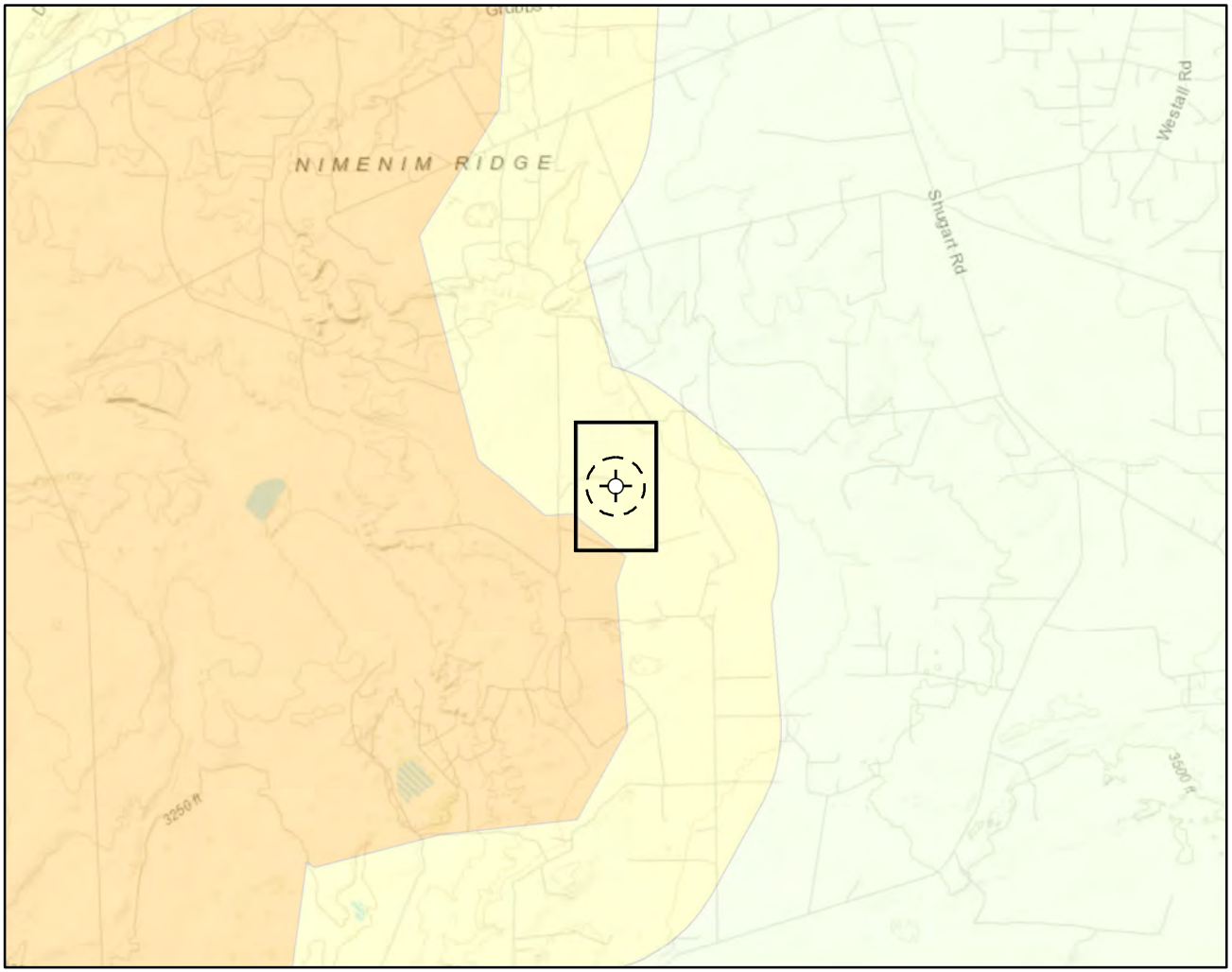
0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

Esri, NASA, NGA, USGS, FEMA, New Mexico State University, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

EMNRD MMD GIS Coordinator

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



Karst Potential

- Critical
- High
- Medium
- Low

Site Location

Site Buffer (1,000 aq.ft.)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft.

VERTEX

Map Center:
Lat/Long: 32.665686, -103.910497

NAD 1983 UTM Zone 13N
Date: Jul 10/23

N

Karst Potential Schematic
Hackberry 18 Fed 2 Battery

FIGURE:
1

devon

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

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

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\2023\23E-03903 - Hackberry 18 Fed 2 Battery\Figure X Karst Potential Schematic Hackberry 18 Fed 2 Battery (23E-03903).mxd

National Flood Hazard Layer FIRMette

Hackberry 18
Fed 2 Battery

FEMA

103°54'57"W 32°40'12"N

103°54'19"W 32°39'41"N

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

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

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

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

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

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

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

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

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

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/30/2023 at 11:20 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Eddy Area, New Mexico

June 30, 2023

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map (11 - Hackberry 18 Fed 2 Battery)

Map Scale: 1:2,680 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 35 70 140 210

Feet
0 100 200 400 600

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

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 18, Sep 8, 2022

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

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

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

Map Unit Legend (11 - Hackberry 18 Fed 2 Battery)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BA	Berino loamy fine sand, 0 to 3 percent slopes	29.9	100.0%
Totals for Area of Interest		**29.9**	**100.0%**

Map Unit Descriptions (11 - Hackberry 18 Fed 2 Battery)

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Eddy Area, New Mexico

BA—Berino loamy fine sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w42
Elevation: 2,000 to 5,700 feet
Mean annual precipitation: 6 to 14 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: 99 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Berino

Setting

Landform: Plains, fan piedmonts
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 12 inches: loamy fine sand
H2 - 12 to 58 inches: sandy clay loam
H3 - 58 to 60 inches: clay loam

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 supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Minor Components

Pajarito

Percent of map unit: 1 percent
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

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United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Eddy Area, New Mexico

June 30, 2023

Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Soil Information for All Uses

Ecological Sites

Individual soil map unit components can be correlated to a particular ecological site. The Ecological Site Assessment section includes ecological site descriptions, plant growth curves, state and transition models, and selected National Plants database information.

All Ecological Sites — (11 - Hackberry 18 Fed 2 Battery)

An "ecological site" is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. For example, the hydrology of the site is influenced by development of the soil and plant community. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production.

An ecological site name provides a general description of a particular ecological site. For example, "Loamy Upland" is the name of a rangeland ecological site. An "ecological site ID" is the symbol assigned to a particular ecological site.

The map identifies the dominant ecological site for each map unit, aggregated by dominant condition. Other ecological sites may occur within each map unit. Each map unit typically consists of one or more components (soils and/or miscellaneous areas). Each soil component is associated with an ecological site. Miscellaneous areas, such as rock outcrop, sand dunes, and badlands, have little or no soil material and support little or no vegetation and therefore are not linked to an ecological site. The table below the map lists all of the ecological sites for each map unit component in your area of interest.

Custom Soil Resource Report

Map—Dominant Ecological Site (11 - Hackberry 18 Fed 2 Battery)

Map Scale: 1:2,680 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

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

MAP LEGEND

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

Soils

Soil Rating Polygons
- R070BC007NM
- Not rated or not available

Soil Rating Lines
- R070BC007NM
- Not rated or not available

Soil Rating Points
- R070BC007NM
- Not rated or not available

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 18, Sep 8, 2022

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.

Table—Ecological Sites by Map Unit Component (11 - Hackberry 18 Fed 2 Battery)

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
BA	Berino loamy fine sand, 0 to 3 percent slopes	Berino (99%)	R070BC007NM — Loamy	29.9	100.0%
		Pajarito (1%)	R070BD003NM — Loamy Sand		
Totals for Area of Interest				**29.9**	**100.0%**

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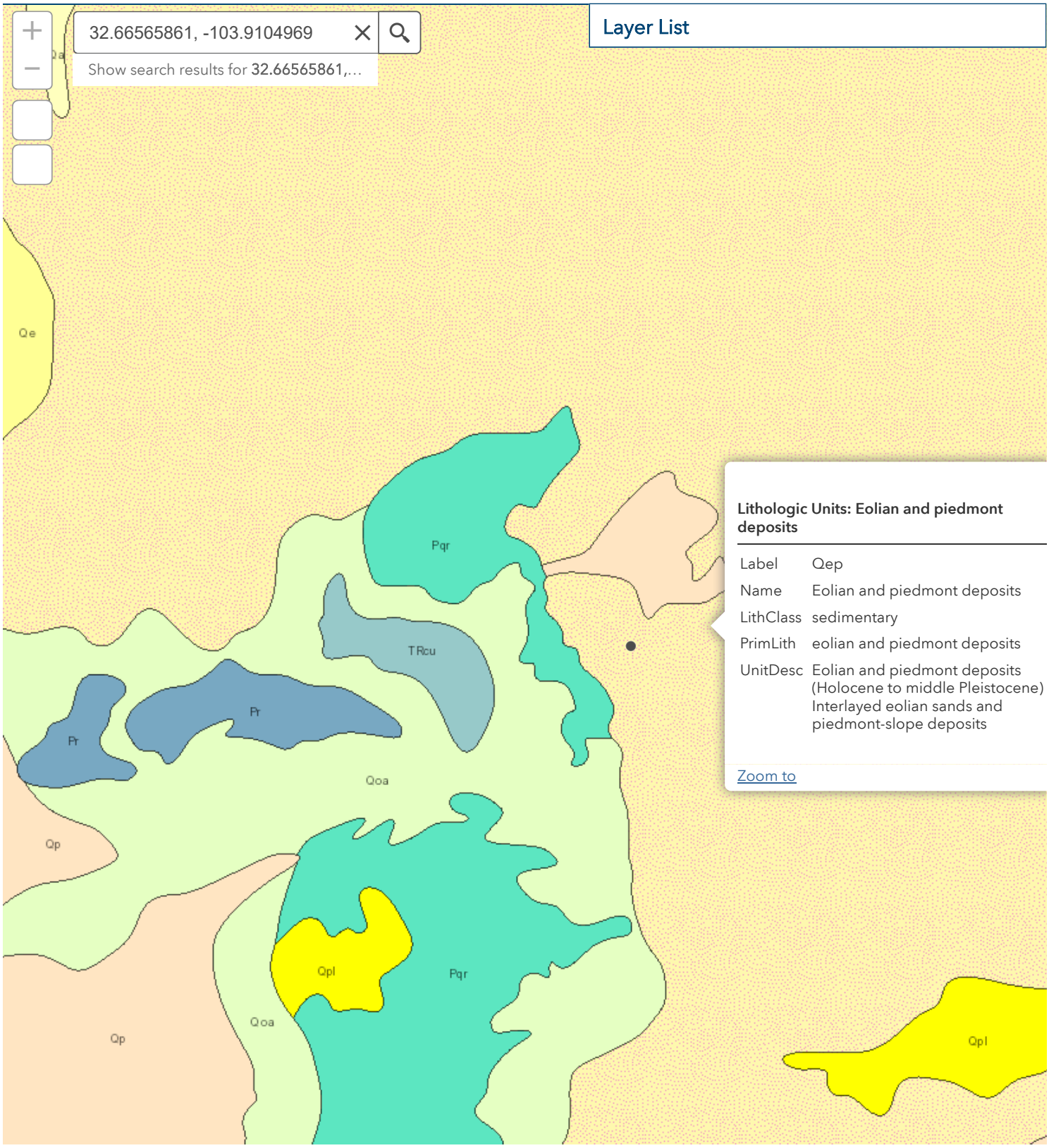
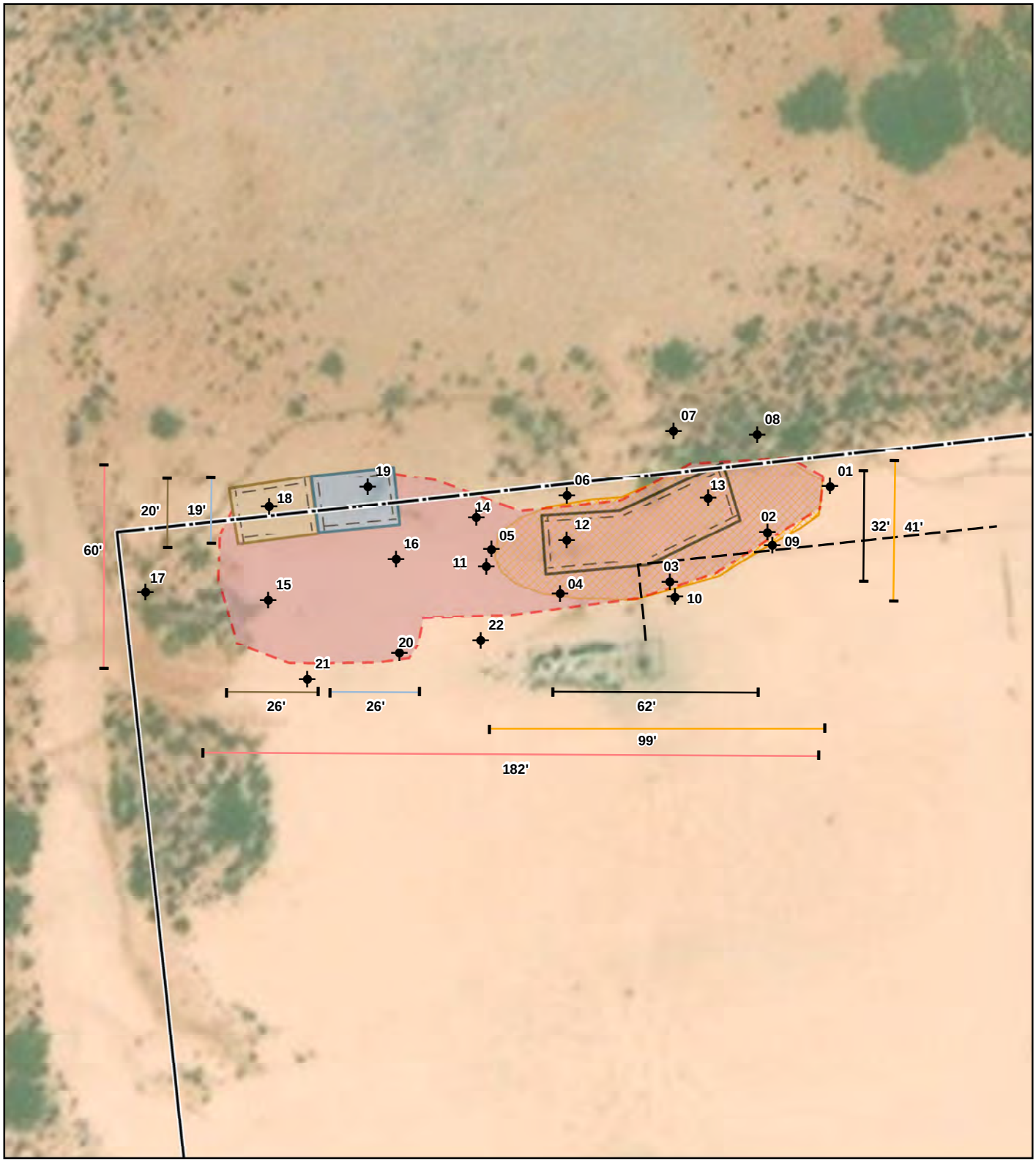
United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

NMBGMR Interactive Resources Map



ATTACHMENT 2



Borehole (Prefixed by "BH23-")

Pipeline (Aboveground)

Approximate Lease Boundary

Approximate Release Area (~6,634 sq.ft.)

Approximate Staining Area (~2,567 sq.ft.) Proposed

East Excavation to 1' - 2' bgs (~1,027 sq.ft.) Proposed

West Excavation to 1' - 2' bgs (~406 sq.ft.) Proposed

Excavation to 3' bgs (~410 sq.ft.)

VERTEX

0 15 30 ft

NAD 1983 UTM Zone 13N

Date: Sep 14/23

Map Center:
Lat: 32.665878,
Long:-103.910627

N

Charaterization Sampling Site and Proposed Excavation Schematic Hackberry 18 Federal 2 Battery

FIGURE: 1

devon

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

Note: Georeferenced image from Esri, 2022. Approximate lease boundary from imagery by Vertex Professional Services Ltd. (Vertex), 2023. Site features from GPS by Vertex, 2023.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\2023\23E-03903 - Hackberry 18 Fed 2 Battery\Figure 1 Characterization Schematic (23E-03903) .mxd

ATTACHMENT 3

Client Name: Devon Energy Production Company, LP
Site Name: Hackberry 18 Federal 2 Battery
NMOCD Tracking #: nAPP2317136603
Project #: 23E-03903
Lab Reports: 2308F22, 2308F19 and 2308F20

Table 3. Initial Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater 51 - 100 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH23-01	0	August 18, 2023	0	12	0	ND	ND	ND	ND	ND	ND	ND	ND
	2	August 18, 2023	0	7	158	ND	ND	ND	ND	ND	ND	ND	320
BH23-02	0	August 18, 2023	0	245	558	ND	ND	ND	21	ND	21	21	880
	2	August 18, 2023	0	22	391	ND	ND	ND	ND	ND	ND	ND	550
BH23-03	0	August 18, 2023	0	-	1,568	ND	ND	ND	ND	ND	ND	ND	2400
	2	August 18, 2023	0	-	336	ND	ND	ND	ND	ND	ND	ND	430
BH23-04	0	August 18, 2023	0	31	655	ND	ND	ND	ND	ND	ND	ND	1000
	2	August 18, 2023	0	13	93	ND	ND	ND	ND	ND	ND	ND	280
BH23-05	0	August 18, 2023	0	-	3,296	ND	ND	ND	ND	ND	ND	ND	3500
	2	August 18, 2023	0	-	1,208	ND	ND	ND	ND	ND	ND	ND	1400
BH23-06	0	August 18, 2023	0	14	216	ND	ND	ND	ND	ND	ND	ND	260
	2	August 18, 2023	0	0	129	ND	ND	ND	ND	ND	ND	ND	250
BH23-07	0	August 18, 2023	0	33	0	ND	ND	ND	ND	ND	ND	ND	ND
	2	August 18, 2023	0	3	0	ND	ND	ND	ND	ND	ND	ND	ND
BH23-08	0	August 18, 2023	0	90	0	ND	ND	ND	ND	ND	ND	ND	ND
	2	August 18, 2023	0	4	0	ND	ND	ND	ND	ND	ND	ND	ND
BH23-09	0	August 19, 2023	0	31	44	ND	ND	ND	ND	ND	ND	ND	110
	2	August 19, 2023	0	29	305	ND	ND	ND	ND	ND	ND	ND	300
BH23-10	0	August 19, 2023	0	90	36	ND	ND	ND	ND	ND	ND	ND	120
	2	August 19, 2023	0	30	329	ND	ND	ND	ND	ND	ND	ND	180
BH23-11	0	August 19, 2023	0	72	2,085	ND	ND	ND	ND	ND	ND	ND	2300
	2	August 19, 2023	0	59	1,258	ND	ND	ND	ND	ND	ND	ND	1000
BH23-12	0	August 19, 2023	2	8,100	7,376	ND	ND	ND	2700	3500	**2700**	**6200**	8200
	2	August 19, 2023	0	28	311	ND	ND	ND	ND	ND	ND	ND	300
	3.5	August 19, 2023	0	92	923	ND	ND	ND	210	220	210	430	830
	4	August 19, 2023	0	-	775	ND	ND	ND	13	ND	ND	ND	540
BH23-13	0	August 19, 2023	14	6,300	8,781	ND	ND	ND	4900	3700	**4900**	**8600**	9200
	1	August 19, 2023	0	29	443	ND	ND	ND	ND	ND	ND	ND	320
	4	August 19, 2023	0	43	178	ND	ND	ND	12	ND	12	12	330
BH23-14	0	August 19, 2023	-	35	2,827	ND	ND	ND	230	180	230	410	2100
	2	August 19, 2023	-	33	3,306	ND	ND	ND	80	62	80	142	2200
BH23-15	0	August 20, 2023	-	32	0	ND	ND	ND	ND	ND	ND	ND	84
	2	August 20, 2023	-	46	936	ND	ND	ND	ND	ND	ND	ND	860
BH23-16	0	August 20, 2023	-	-	821	ND	ND	ND	100	140	100	240	1300
	2	August 20, 2023	-	-	2,433	ND	ND	ND	ND	ND	ND	ND	1900
BH23-17	0	August 20, 2023	-	47	0	ND	ND	ND	ND	ND	ND	ND	ND
	2	August 20, 2023	-	22	0	ND	ND	ND	ND	ND	ND	ND	ND
BH23-18	0	August 20, 2023	-	-	**5,755**	ND	ND	ND	340	250	**340**	**590**	**5000**
	2	August 20, 2023	-	-	**754**	ND	ND	ND	ND	ND	ND	ND	550

Client Name: Devon Energy Production Company, LP
Site Name: Hackberry 18 Federal 2 Battery
NMOCD Tracking #: nAPP2317136603
Project #: 23E-03903
Lab Reports: 2308F22, 2308F19 and 2308F20

Table 3. Initial Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater 51 - 100 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH23-19	0	August 20, 2023	-	79	2	ND	ND	ND	ND	ND	ND	ND	200
	2	August 20, 2023	-	31	826	ND	ND	ND	ND	ND	ND	ND	**860**
BH23-20	0	August 20, 2023	-	-	4,624	ND	ND	ND	ND	ND	ND	ND	5000
	2	August 20, 2023	-	-	1,793	ND	ND	ND	ND	ND	ND	ND	1600
BH23-21	0	August 20, 2023	-	14	619	ND	ND	ND	ND	ND	ND	ND	540
	2	August 20, 2023	-	49	411	ND	ND	ND	ND	ND	ND	ND	620
BH23-22	0	August 20, 2023	-	25	40	ND	ND	ND	ND	ND	ND	ND	97
	2	August 20, 2023	-	38	41	ND	ND	ND	ND	ND	ND	ND	220

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and grey shaded indicates exceedance outside of NMOCD Closure Criteria (on-pad)
Bold and green shaded indicates exceedance outside of NMOCD Reclamation Criteria (off-pad)

VERTEX

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 11, 2023

Kent Stallings

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

RE: Hackberry 18 Fed 2 Battery OrderNo.: 2308F22

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 16 sample(s) on 8/29/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2308F22**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Hackberry 18 Fed 2 Battery
Lab ID: 2308F22-001 **Matrix:** SOIL

Client Sample ID: BH23-01 0.0'
Collection Date: 8/18/2023 9:00:00 AM
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	9/1/2023 1:55:47 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	9/1/2023 1:55:47 AM
Surr: DNOP	96.8	69-147		%Rec	1	9/1/2023 1:55:47 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/30/2023 8:40:02 PM
Surr: BFB	94.3	15-244		%Rec	1	8/30/2023 8:40:02 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/30/2023 8:40:02 PM
Toluene	ND	0.049		mg/Kg	1	8/30/2023 8:40:02 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/30/2023 8:40:02 PM
Xylenes, Total	ND	0.098		mg/Kg	1	8/30/2023 8:40:02 PM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	8/30/2023 8:40:02 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	8/31/2023 9:19:43 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F22**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Hackberry 18 Fed 2 Battery
Lab ID: 2308F22-002 **Matrix:** SOIL

Client Sample ID: BH23-01 2.0'
Collection Date: 8/18/2023 9:10:00 AM
Received Date: 8/29/2023 7:55:00 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	9/1/2023 2:06:44 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/1/2023 2:06:44 AM
Surr: DNOP	98.8	69-147		%Rec	1	9/1/2023 2:06:44 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/30/2023 9:50:43 PM
Surr: BFB	96.7	15-244		%Rec	1	8/30/2023 9:50:43 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/30/2023 9:50:43 PM
Toluene	ND	0.047		mg/Kg	1	8/30/2023 9:50:43 PM
Ethylbenzene	ND	0.047		mg/Kg	1	8/30/2023 9:50:43 PM
Xylenes, Total	ND	0.094		mg/Kg	1	8/30/2023 9:50:43 PM
Surr: 4-Bromofluorobenzene	108	39.1-146		%Rec	1	8/30/2023 9:50:43 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	320	60		mg/Kg	20	8/31/2023 9:32:08 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F22**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Hackberry 18 Fed 2 Battery
Lab ID: 2308F22-003 **Matrix:** SOIL

Client Sample ID: BH23-02 0.0'
Collection Date: 8/18/2023 9:20:00 AM
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	21	9.1		mg/Kg	1	9/1/2023 2:17:47 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/1/2023 2:17:47 AM
Surr: DNOP	97.1	69-147		%Rec	1	9/1/2023 2:17:47 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/30/2023 11:01:07 PM
Surr: BFB	93.0	15-244		%Rec	1	8/30/2023 11:01:07 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	8/30/2023 11:01:07 PM
Toluene	ND	0.046		mg/Kg	1	8/30/2023 11:01:07 PM
Ethylbenzene	ND	0.046		mg/Kg	1	8/30/2023 11:01:07 PM
Xylenes, Total	ND	0.092		mg/Kg	1	8/30/2023 11:01:07 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	8/30/2023 11:01:07 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	880	60		mg/Kg	20	8/31/2023 9:44:33 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F22**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Hackberry 18 Fed 2 Battery
Lab ID: 2308F22-004 **Matrix:** SOIL

Client Sample ID: BH23-02 2.0'
Collection Date: 8/18/2023 9:30:00 AM
Received Date: 8/29/2023 7:55:00 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	9/1/2023 2:39:33 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/1/2023 2:39:33 AM
Surr: DNOP	99.7	69-147		%Rec	1	9/1/2023 2:39:33 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/30/2023 11:24:32 PM
Surr: BFB	93.4	15-244		%Rec	1	8/30/2023 11:24:32 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/30/2023 11:24:32 PM
Toluene	ND	0.049		mg/Kg	1	8/30/2023 11:24:32 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/30/2023 11:24:32 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/30/2023 11:24:32 PM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	8/30/2023 11:24:32 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	550	60		mg/Kg	20	8/31/2023 9:56:58 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F22**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Hackberry 18 Fed 2 Battery
Lab ID: 2308F22-005 **Matrix:** SOIL

Client Sample ID: BH23-03 0.0'
Collection Date: 8/18/2023 9:40:00 AM
Received Date: 8/29/2023 7:55:00 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	9/1/2023 2:50:27 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/1/2023 2:50:27 AM
Surr: DNOP	97.0	69-147		%Rec	1	9/1/2023 2:50:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/30/2023 11:47:55 PM
Surr: BFB	92.2	15-244		%Rec	1	8/30/2023 11:47:55 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/30/2023 11:47:55 PM
Toluene	ND	0.048		mg/Kg	1	8/30/2023 11:47:55 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/30/2023 11:47:55 PM
Xylenes, Total	ND	0.095		mg/Kg	1	8/30/2023 11:47:55 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	8/30/2023 11:47:55 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	2400	150		mg/Kg	50	9/1/2023 7:48:38 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F22**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Hackberry 18 Fed 2 Battery
Lab ID: 2308F22-006 **Matrix:** SOIL

Client Sample ID: BH23-03 2.0'
Collection Date: 8/18/2023 9:50:00 AM
Received Date: 8/29/2023 7:55:00 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	9/1/2023 3:01:19 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/1/2023 3:01:19 AM
Surr: DNOP	93.4	69-147		%Rec	1	9/1/2023 3:01:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/31/2023 12:11:23 AM
Surr: BFB	92.0	15-244		%Rec	1	8/31/2023 12:11:23 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/31/2023 12:11:23 AM
Toluene	ND	0.048		mg/Kg	1	8/31/2023 12:11:23 AM
Ethylbenzene	ND	0.048		mg/Kg	1	8/31/2023 12:11:23 AM
Xylenes, Total	ND	0.097		mg/Kg	1	8/31/2023 12:11:23 AM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	8/31/2023 12:11:23 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	430	60		mg/Kg	20	8/31/2023 10:21:46 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F22**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-04 0.0'
Project: Hackberry 18 Fed 2 Battery
Collection Date: 8/18/2023 10:00:00 AM
Lab ID: 2308F22-007 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 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	9/1/2023 3:12:11 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/1/2023 3:12:11 AM
Surr: DNOP	93.9	69-147		%Rec	1	9/1/2023 3:12:11 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/31/2023 12:34:46 AM
Surr: BFB	92.1	15-244		%Rec	1	8/31/2023 12:34:46 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/31/2023 12:34:46 AM
Toluene	ND	0.048		mg/Kg	1	8/31/2023 12:34:46 AM
Ethylbenzene	ND	0.048		mg/Kg	1	8/31/2023 12:34:46 AM
Xylenes, Total	ND	0.097		mg/Kg	1	8/31/2023 12:34:46 AM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	8/31/2023 12:34:46 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	1000	60		mg/Kg	20	8/31/2023 10:34:10 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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308F22**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-04 2.0'
Project: Hackberry 18 Fed 2 Battery
Collection Date: 8/18/2023 10:10:00 AM
Lab ID: 2308F22-008 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 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	9/1/2023 3:23:06 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/1/2023 3:23:06 AM
Surr: DNOP	93.2	69-147		%Rec	1	9/1/2023 3:23:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/31/2023 12:58:08 AM
Surr: BFB	90.5	15-244		%Rec	1	8/31/2023 12:58:08 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	8/31/2023 12:58:08 AM
Toluene	ND	0.050		mg/Kg	1	8/31/2023 12:58:08 AM
Ethylbenzene	ND	0.050		mg/Kg	1	8/31/2023 12:58:08 AM
Xylenes, Total	ND	0.099		mg/Kg	1	8/31/2023 12:58:08 AM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	8/31/2023 12:58:08 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	280	60		mg/Kg	20	8/31/2023 11:11:24 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308F22**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Hackberry 18 Fed 2 Battery
Lab ID: 2308F22-009 **Matrix:** SOIL

Client Sample ID: BH23-05 0.0'
Collection Date: 8/18/2023 10:20:00 AM
Received Date: 8/29/2023 7:55:00 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	9/1/2023 3:33:55 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/1/2023 3:33:55 AM
Surr: DNOP	96.4	69-147		%Rec	1	9/1/2023 3:33:55 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/31/2023 1:21:34 AM
Surr: BFB	91.9	15-244		%Rec	1	8/31/2023 1:21:34 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	8/31/2023 1:21:34 AM
Toluene	ND	0.047		mg/Kg	1	8/31/2023 1:21:34 AM
Ethylbenzene	ND	0.047		mg/Kg	1	8/31/2023 1:21:34 AM
Xylenes, Total	ND	0.093		mg/Kg	1	8/31/2023 1:21:34 AM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	8/31/2023 1:21:34 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	3400	150		mg/Kg	50	9/1/2023 8:01:03 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F22**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-05 2.0'
Project: Hackberry 18 Fed 2 Battery
Collection Date: 8/18/2023 10:30:00 AM
Lab ID: 2308F22-010 **Matrix:** SOIL
Received Date: 8/29/2023 7:55:00 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	9/1/2023 3:44:47 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/1/2023 3:44:47 AM
Surr: DNOP	95.2	69-147		%Rec	1	9/1/2023 3:44:47 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/31/2023 1:44:56 AM
Surr: BFB	95.2	15-244		%Rec	1	8/31/2023 1:44:56 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/31/2023 1:44:56 AM
Toluene	ND	0.049		mg/Kg	1	8/31/2023 1:44:56 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/31/2023 1:44:56 AM
Xylenes, Total	ND	0.097		mg/Kg	1	8/31/2023 1:44:56 AM
Surr: 4-Bromofluorobenzene	107	39.1-146		%Rec	1	8/31/2023 1:44:56 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	1400	60		mg/Kg	20	8/31/2023 11:36:13 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F22**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Hackberry 18 Fed 2 Battery
Lab ID: 2308F22-011 **Matrix:** SOIL

Client Sample ID: BH23-06 0.0'
Collection Date: 8/18/2023 10:40:00 AM
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	9/1/2023 3:55:36 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/1/2023 3:55:36 AM
Surr: DNOP	98.4	69-147		%Rec	1	9/1/2023 3:55:36 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/31/2023 2:31:46 AM
Surr: BFB	93.5	15-244		%Rec	1	8/31/2023 2:31:46 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/31/2023 2:31:46 AM
Toluene	ND	0.049		mg/Kg	1	8/31/2023 2:31:46 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/31/2023 2:31:46 AM
Xylenes, Total	ND	0.097		mg/Kg	1	8/31/2023 2:31:46 AM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	8/31/2023 2:31:46 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	260	60		mg/Kg	20	8/31/2023 11:48:38 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F22**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-06 2.0'
Project: Hackberry 18 Fed 2 Battery
Collection Date: 8/18/2023 10:50:00 AM
Lab ID: 2308F22-012 **Matrix:** SOIL
Received Date: 8/29/2023 7:55:00 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	9/1/2023 4:06:21 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/1/2023 4:06:21 AM
Surr: DNOP	99.7	69-147		%Rec	1	9/1/2023 4:06:21 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/31/2023 2:55:14 AM
Surr: BFB	91.9	15-244		%Rec	1	8/31/2023 2:55:14 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	8/31/2023 2:55:14 AM
Toluene	ND	0.049		mg/Kg	1	8/31/2023 2:55:14 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/31/2023 2:55:14 AM
Xylenes, Total	ND	0.099		mg/Kg	1	8/31/2023 2:55:14 AM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	8/31/2023 2:55:14 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	250	60		mg/Kg	20	8/31/2023 6:42:41 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F22**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Hackberry 18 Fed 2 Battery
Lab ID: 2308F22-013 **Matrix:** SOIL

Client Sample ID: BH23-07 0.0'
Collection Date: 8/18/2023 11:00:00 AM
Received Date: 8/29/2023 7:55:00 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	9/1/2023 4:17:06 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	9/1/2023 4:17:06 AM
Surr: DNOP	93.8	69-147		%Rec	1	9/1/2023 4:17:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/31/2023 3:18:46 AM
Surr: BFB	93.1	15-244		%Rec	1	8/31/2023 3:18:46 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	8/31/2023 3:18:46 AM
Toluene	ND	0.047		mg/Kg	1	8/31/2023 3:18:46 AM
Ethylbenzene	ND	0.047		mg/Kg	1	8/31/2023 3:18:46 AM
Xylenes, Total	ND	0.094		mg/Kg	1	8/31/2023 3:18:46 AM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	8/31/2023 3:18:46 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	8/31/2023 6:55:06 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F22**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-07 2.0'
Project: Hackberry 18 Fed 2 Battery
Collection Date: 8/18/2023 11:10:00 AM
Lab ID: 2308F22-014 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 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	9/1/2023 4:27:49 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/1/2023 4:27:49 AM
Surr: DNOP	92.7	69-147		%Rec	1	9/1/2023 4:27:49 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/31/2023 3:42:15 AM
Surr: BFB	90.5	15-244		%Rec	1	8/31/2023 3:42:15 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/31/2023 3:42:15 AM
Toluene	ND	0.048		mg/Kg	1	8/31/2023 3:42:15 AM
Ethylbenzene	ND	0.048		mg/Kg	1	8/31/2023 3:42:15 AM
Xylenes, Total	ND	0.097		mg/Kg	1	8/31/2023 3:42:15 AM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	8/31/2023 3:42:15 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	8/31/2023 8:21:58 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F22**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-08 0.0'
Project: Hackberry 18 Fed 2 Battery
Collection Date: 8/18/2023 11:20:00 AM
Lab ID: 2308F22-015 **Matrix:** SOIL
Received Date: 8/29/2023 7:55:00 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	9/1/2023 4:38:32 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/1/2023 4:38:32 AM
Surr: DNOP	109	69-147		%Rec	1	9/1/2023 4:38:32 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/31/2023 4:05:39 AM
Surr: BFB	92.2	15-244		%Rec	1	8/31/2023 4:05:39 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	8/31/2023 4:05:39 AM
Toluene	ND	0.050		mg/Kg	1	8/31/2023 4:05:39 AM
Ethylbenzene	ND	0.050		mg/Kg	1	8/31/2023 4:05:39 AM
Xylenes, Total	ND	0.10		mg/Kg	1	8/31/2023 4:05:39 AM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	8/31/2023 4:05:39 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	8/31/2023 8:34:23 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F22**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Hackberry 18 Fed 2 Battery
Lab ID: 2308F22-016 **Matrix:** SOIL

Client Sample ID: BH23-08 2.0'
Collection Date: 8/18/2023 11:30:00 AM
Received Date: 8/29/2023 7:55:00 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	9/1/2023 4:49:25 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/1/2023 4:49:25 AM
Surr: DNOP	96.9	69-147		%Rec	1	9/1/2023 4:49:25 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/31/2023 4:29:04 AM
Surr: BFB	93.7	15-244		%Rec	1	8/31/2023 4:29:04 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/31/2023 4:29:04 AM
Toluene	ND	0.049		mg/Kg	1	8/31/2023 4:29:04 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/31/2023 4:29:04 AM
Xylenes, Total	ND	0.098		mg/Kg	1	8/31/2023 4:29:04 AM
Surr: 4-Bromofluorobenzene	106	39.1-146		%Rec	1	8/31/2023 4:29:04 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	8/31/2023 8:46:48 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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F22**

11-Sep-23

Client: Devon Energy

Project: Hackberry 18 Fed 2 Battery

Sample ID: **MB-77246**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **77246**	RunNo: **99401**							
Prep Date: **8/31/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627582**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77246**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **77246**	RunNo: **99401**							
Prep Date: **8/31/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627583**	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			

Sample ID: **MB-77241**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **77241**	RunNo: **99389**							
Prep Date: **8/31/2023**	Analysis Date: **8/31/2023**	SeqNo: **3628254**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77241**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **77241**	RunNo: **99389**							
Prep Date: **8/31/2023**	Analysis Date: **8/31/2023**	SeqNo: **3628255**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.1	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 Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F22**

11-Sep-23

Client: Devon Energy

Project: Hackberry 18 Fed 2 Battery

Sample ID: **LCS-77177** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **77177** RunNo: **99380**
Prep Date: **8/29/2023** Analysis Date: **8/31/2023** SeqNo: **3627016** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.7		5.000		114	69	147			

Sample ID: **MB-77177** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **77177** RunNo: **99380**
Prep Date: **8/29/2023** Analysis Date: **8/31/2023** SeqNo: **3627018** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		116	69	147			

Sample ID: **2308F22-016AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-08 2.0'** Batch ID: **77175** RunNo: **99380**
Prep Date: **8/29/2023** Analysis Date: **9/1/2023** SeqNo: **3627538** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	9.1	45.37	0	93.5	54.2	135			
Surr: DNOP	4.1		4.537		89.9	69	147			

Sample ID: **2308F22-016AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-08 2.0'** Batch ID: **77175** RunNo: **99380**
Prep Date: **8/29/2023** Analysis Date: **9/1/2023** SeqNo: **3627540** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	8.9	44.56	0	91.5	54.2	135	3.87	29.2	
Surr: DNOP	4.0		4.456		89.4	69	147	0	0	

Sample ID: **LCS-77175** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **77175** RunNo: **99380**
Prep Date: **8/29/2023** Analysis Date: **8/31/2023** SeqNo: **3627542** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	87.0	61.9	130			
Surr: DNOP	4.7		5.000		93.3	69	147			

Sample ID: **LCS-77176** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **77176** RunNo: **99380**
Prep Date: **8/29/2023** Analysis Date: **8/31/2023** SeqNo: **3627544** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.5		5.000		109	69	147			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F22**

11-Sep-23

Client: Devon Energy

Project: Hackberry 18 Fed 2 Battery

Sample ID: **LCS-77208**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **77208**	RunNo: **99380**							
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627545**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.9		5.000		119	69	147			

Sample ID: **LCS-77213**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **77213**	RunNo: **99380**							
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627547**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.3		5.000		105	69	147			

Sample ID: **MB-77175**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **77175**	RunNo: **99380**							
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627550**	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		114	69	147			

Sample ID: **MB-77176**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **77176**	RunNo: **99380**							
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627552**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	13		10.00		126	69	147			

Sample ID: **MB-77208**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **77208**	RunNo: **99380**							
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627556**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	13		10.00		131	69	147			

Sample ID: **MB-77213**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **77213**	RunNo: **99380**							
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627557**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		108	69	147			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F22**

11-Sep-23

Client: Devon Energy

Project: Hackberry 18 Fed 2 Battery

Sample ID: **lcs-77140**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **77140**	RunNo: **99342**							
Prep Date: **8/28/2023**	Analysis Date: **8/30/2023**	SeqNo: **3624717**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1900		1000		192	15	244			

Sample ID: **mb-77140**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **77140**	RunNo: **99342**							
Prep Date: **8/28/2023**	Analysis Date: **8/30/2023**	SeqNo: **3624718**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	950		1000		94.7	15	244			

Sample ID: **lcs-77168**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **77168**	RunNo: **99342**							
Prep Date: **8/29/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625866**	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	70	130			
Surr: BFB	1900		1000		195	15	244			

Sample ID: **mb-77168**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **77168**	RunNo: **99342**							
Prep Date: **8/29/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625867**	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	960		1000		96.0	15	244			

Sample ID: **2308f22-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BH23-01 0.0'**	Batch ID: **77168**	RunNo: **99342**							
Prep Date: **8/29/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625880**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.9	24.56	0	96.0	70	130			
Surr: BFB	2000		982.3		203	15	244			

Sample ID: **2308f22-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BH23-01 0.0'**	Batch ID: **77168**	RunNo: **99342**							
Prep Date: **8/29/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625881**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.9	24.39	0	91.9	70	130	5.03	20	
Surr: BFB	1900		975.6		198	15	244	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F22**

11-Sep-23

Client: Devon Energy

Project: Hackberry 18 Fed 2 Battery

Sample ID: **LCS-77168**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77168**	RunNo: **99342**
Prep Date: **8/29/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625922** 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	102	70	130			
Toluene	1.0	0.050	1.000	0	103	70	130			
Ethylbenzene	1.1	0.050	1.000	0	105	70	130			
Xylenes, Total	3.2	0.10	3.000	0	107	70	130			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	39.1	146			

Sample ID: **mb-77168**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77168**	RunNo: **99342**
Prep Date: **8/29/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625923** 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		107	39.1	146			

Sample ID: **2308f22-002ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-01 2.0'**	Batch ID: **77168**	RunNo: **99342**
Prep Date: **8/29/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625940** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.023	0.9398	0	106	70	130			
Toluene	1.0	0.047	0.9398	0	108	70	130			
Ethylbenzene	1.0	0.047	0.9398	0	109	70	130			
Xylenes, Total	3.1	0.094	2.820	0	110	70	130			
Surr: 4-Bromofluorobenzene	0.99		0.9398		105	39.1	146			

Sample ID: **2308f22-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-01 2.0'**	Batch ID: **77168**	RunNo: **99342**
Prep Date: **8/29/2023**	Analysis Date: **8/30/2023**	SeqNo: **3625941** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.024	0.9407	0	104	70	130	2.56	20	
Toluene	0.98	0.047	0.9407	0	104	70	130	2.91	20	
Ethylbenzene	1.0	0.047	0.9407	0	107	70	130	1.91	20	
Xylenes, Total	3.0	0.094	2.822	0	107	70	130	2.92	20	
Surr: 4-Bromofluorobenzene	0.99		0.9407		105	39.1	146	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Devon Energy | Work Order Number: 2308F22 | RcptNo: 1

Received By: Tracy Casarrubias 8/29/2023 7:55:00 AM

Completed By: Tracy Casarrubias 8/29/2023 9:08:29 AM

Reviewed By: 8-29-23

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 ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: 8/29/23

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions: Mailing address,phone number and Email/Fax are missing on COC- TMC 8/29/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.6	Good	Yes	Yogi		

Chain-of-Custody Record

Client: Devon

Direct Bill

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 3 DAY

Project Name: Hackberry 18 Fed 2 Battery

Project #: 23E-03903

Project Manager: Kent Stallings

Sampler: AH

On Ice: ☒ Yes ☐ No Yoqi

# of Coolers: 1

Cooler Temp(including CF): 5.7 - 0.1 = 5.6 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308F22
8-18-23	0900	Soil	BH23-01 0.0'	4 oz	ICE	001
	0910		BH23-01 2.0'			002
	0920		BH23-02 0.0'			003
	0930		BH23-02 2.0'			004
	0940		BH23-03 0.0'			005
	0950		BH23-03 2.0'			006
	1000		BH23-04 0.0'			007
	1010		BH23-04 2.0'			008
	1020		BH23-05 0.0'			009
	1030		BH23-05 2.0'			010
	1040		BH23-06 0.0'			011
	1050		BH23-06 2.0'			012

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)

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					8/28/23	845
8/28/23	930				8/29/23	7:55

Remarks: CC: kstallings@vertex.ca
aharris@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.

Chain-of-Custody Record

Client: Devon

Direct Bill

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 3 DAY

Project Name: Hackberry 18 Fed 2 Battery

Project #: 23E-03903

Project Manager: Kent Stallings

Sampler: JH

On Ice: ☑ Yes ☐ No 4 oz

# of Coolers: 1

Cooler Temp(including CF): 5.7-0.1=5.6 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308F22	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)
8-18-23	1100	Soil	BH23-07	402	ICE	013	✓	✓					✓			
	1110		BH23-07			014										
	1120		BH23-08			015										
	1130		BH23-08			016										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					8/28/23	845
Date: 8/28/23	Time: 1900	Relinquished by:	Received by:	Via: Courier	Date 8/29/23	Time 7:55

Remarks: CC: kstallings@vertex.ca
aharris@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.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 11, 2023

Kent Stallings

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL:
FAX:

RE: Hackberry 18 OrderNo.: 2308F19

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 15 sample(s) on 8/29/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2308F19**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-09 0'
Project: Hackberry 18
Collection Date: 8/19/2023 9:00:00 AM
Lab ID: 2308F19-001 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	8/31/2023 9:57:59 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	8/31/2023 9:57:59 PM
Surr: DNOP	94.9	69-147		%Rec	1	8/31/2023 9:57:59 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/31/2023 4:52:30 AM
Surr: BFB	92.9	15-244		%Rec	1	8/31/2023 4:52:30 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/31/2023 4:52:30 AM
Toluene	ND	0.048		mg/Kg	1	8/31/2023 4:52:30 AM
Ethylbenzene	ND	0.048		mg/Kg	1	8/31/2023 4:52:30 AM
Xylenes, Total	ND	0.095		mg/Kg	1	8/31/2023 4:52:30 AM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	8/31/2023 4:52:30 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	110	60		mg/Kg	20	8/31/2023 5:03:26 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F19**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-09 2'
Project: Hackberry 18 **Collection Date:** 8/19/2023 9:15:00 AM
Lab ID: 2308F19-002 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 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	8/31/2023 10:09:13 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/31/2023 10:09:13 PM
Surr: DNOP	92.5	69-147		%Rec	1	8/31/2023 10:09:13 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/31/2023 5:15:55 AM
Surr: BFB	94.1	15-244		%Rec	1	8/31/2023 5:15:55 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/31/2023 5:15:55 AM
Toluene	ND	0.048		mg/Kg	1	8/31/2023 5:15:55 AM
Ethylbenzene	ND	0.048		mg/Kg	1	8/31/2023 5:15:55 AM
Xylenes, Total	ND	0.096		mg/Kg	1	8/31/2023 5:15:55 AM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	8/31/2023 5:15:55 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	300	60		mg/Kg	20	8/31/2023 5:15:51 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F19**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-10 0'
Project: Hackberry 18 **Collection Date:** 8/19/2023 9:30:00 AM
Lab ID: 2308F19-003 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 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	8/31/2023 10:20:23 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/31/2023 10:20:23 PM
Surr: DNOP	107	69-147		%Rec	1	8/31/2023 10:20:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/31/2023 5:39:14 AM
Surr: BFB	95.8	15-244		%Rec	1	8/31/2023 5:39:14 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/31/2023 5:39:14 AM
Toluene	ND	0.049		mg/Kg	1	8/31/2023 5:39:14 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/31/2023 5:39:14 AM
Xylenes, Total	ND	0.098		mg/Kg	1	8/31/2023 5:39:14 AM
Surr: 4-Bromofluorobenzene	107	39.1-146		%Rec	1	8/31/2023 5:39:14 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	120	60		mg/Kg	20	8/31/2023 5:28:15 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F19**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-10 2'
Project: Hackberry 18 **Collection Date:** 8/19/2023 9:45:00 AM
Lab ID: 2308F19-004 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 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	8/31/2023 10:31:40 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/31/2023 10:31:40 PM
Surr: DNOP	94.1	69-147		%Rec	1	8/31/2023 10:31:40 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/31/2023 6:02:43 AM
Surr: BFB	94.7	15-244		%Rec	1	8/31/2023 6:02:43 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/31/2023 6:02:43 AM
Toluene	ND	0.049		mg/Kg	1	8/31/2023 6:02:43 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/31/2023 6:02:43 AM
Xylenes, Total	ND	0.097		mg/Kg	1	8/31/2023 6:02:43 AM
Surr: 4-Bromofluorobenzene	107	39.1-146		%Rec	1	8/31/2023 6:02:43 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	180	60		mg/Kg	20	8/31/2023 5:40:40 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F19**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-11 0'
Project: Hackberry 18 **Collection Date:** 8/19/2023 10:00:00 AM
Lab ID: 2308F19-005 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 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	8/31/2023 10:42:51 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/31/2023 10:42:51 PM
Surr: DNOP	99.5	69-147		%Rec	1	8/31/2023 10:42:51 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/31/2023 5:27:32 PM
Surr: BFB	98.9	15-244		%Rec	1	8/31/2023 5:27:32 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/31/2023 5:27:32 PM
Toluene	ND	0.048		mg/Kg	1	8/31/2023 5:27:32 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/31/2023 5:27:32 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/31/2023 5:27:32 PM
Surr: 4-Bromofluorobenzene	108	39.1-146		%Rec	1	8/31/2023 5:27:32 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	2300	150		mg/Kg	50	9/1/2023 7:36:56 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F19**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-11 2'
Project: Hackberry 18
Collection Date: 8/19/2023 10:15:00 AM
Lab ID: 2308F19-006 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 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	8/31/2023 10:54:01 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/31/2023 10:54:01 PM
Surr: DNOP	101	69-147		%Rec	1	8/31/2023 10:54:01 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/31/2023 5:51:29 PM
Surr: BFB	100	15-244		%Rec	1	8/31/2023 5:51:29 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	8/31/2023 5:51:29 PM
Toluene	ND	0.049		mg/Kg	1	8/31/2023 5:51:29 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/31/2023 5:51:29 PM
Xylenes, Total	ND	0.098		mg/Kg	1	8/31/2023 5:51:29 PM
Surr: 4-Bromofluorobenzene	110	39.1-146		%Rec	1	8/31/2023 5:51:29 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	1000	60		mg/Kg	20	8/31/2023 6:05:29 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F19**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-12 0'
Project: Hackberry 18 **Collection Date:** 8/19/2023 10:30:00 AM
Lab ID: 2308F19-007 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	2700	100		mg/Kg	10	8/31/2023 11:05:10 PM
Motor Oil Range Organics (MRO)	3500	500		mg/Kg	10	8/31/2023 11:05:10 PM
Surr: DNOP	0	69-147	S	%Rec	10	8/31/2023 11:05:10 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/31/2023 6:15:21 PM
Surr: BFB	95.6	15-244		%Rec	1	8/31/2023 6:15:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/31/2023 6:15:21 PM
Toluene	ND	0.048		mg/Kg	1	8/31/2023 6:15:21 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/31/2023 6:15:21 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/31/2023 6:15:21 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	8/31/2023 6:15:21 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	8200	300		mg/Kg	100	9/1/2023 7:49:21 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308F19**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-12 2'
Project: Hackberry 18 **Collection Date:** 8/19/2023 10:45:00 AM
Lab ID: 2308F19-008 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 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	8/31/2023 11:46:23 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/31/2023 11:46:23 PM
Surr: DNOP	124	69-147		%Rec	1	8/31/2023 11:46:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/31/2023 6:39:08 PM
Surr: BFB	97.6	15-244		%Rec	1	8/31/2023 6:39:08 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	8/31/2023 6:39:08 PM
Toluene	ND	0.050		mg/Kg	1	8/31/2023 6:39:08 PM
Ethylbenzene	ND	0.050		mg/Kg	1	8/31/2023 6:39:08 PM
Xylenes, Total	ND	0.10		mg/Kg	1	8/31/2023 6:39:08 PM
Surr: 4-Bromofluorobenzene	108	39.1-146		%Rec	1	8/31/2023 6:39:08 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	300	60		mg/Kg	20	8/31/2023 6:50:48 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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308F19**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-12 3.5'
Project: Hackberry 18
Collection Date: 8/19/2023 11:00:00 AM
Lab ID: 2308F19-009 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	210	9.3		mg/Kg	1	9/1/2023 1:57:19 PM
Motor Oil Range Organics (MRO)	220	46		mg/Kg	1	9/1/2023 1:57:19 PM
Surr: DNOP	117	69-147		%Rec	1	9/1/2023 1:57:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/31/2023 7:02:50 PM
Surr: BFB	97.4	15-244		%Rec	1	8/31/2023 7:02:50 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	8/31/2023 7:02:50 PM
Toluene	ND	0.050		mg/Kg	1	8/31/2023 7:02:50 PM
Ethylbenzene	ND	0.050		mg/Kg	1	8/31/2023 7:02:50 PM
Xylenes, Total	ND	0.099		mg/Kg	1	8/31/2023 7:02:50 PM
Surr: 4-Bromofluorobenzene	107	39.1-146		%Rec	1	8/31/2023 7:02:50 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	830	60		mg/Kg	20	8/31/2023 7:28:02 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308F19**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-12 4'
Project: Hackberry 18
Collection Date: 8/19/2023 11:15:00 AM
Lab ID: 2308F19-010 **Matrix:** SOIL
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	13	9.2		mg/Kg	1	9/1/2023 12:19:34 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	9/1/2023 12:19:34 AM
Surr: DNOP	126	69-147		%Rec	1	9/1/2023 12:19:34 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/31/2023 7:26:32 PM
Surr: BFB	96.4	15-244		%Rec	1	8/31/2023 7:26:32 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/31/2023 7:26:32 PM
Toluene	ND	0.049		mg/Kg	1	8/31/2023 7:26:32 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/31/2023 7:26:32 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/31/2023 7:26:32 PM
Surr: 4-Bromofluorobenzene	107	39.1-146		%Rec	1	8/31/2023 7:26:32 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	540	60		mg/Kg	20	8/31/2023 7:40:26 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F19**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-13 0'
Project: Hackberry 18
Collection Date: 8/19/2023 11:30:00 AM
Lab ID: 2308F19-011 **Matrix:** SOIL
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	4900	100		mg/Kg	10	9/1/2023 12:30:37 AM
Motor Oil Range Organics (MRO)	3700	500		mg/Kg	10	9/1/2023 12:30:37 AM
Surr: DNOP	0	69-147	S	%Rec	10	9/1/2023 12:30:37 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/31/2023 7:50:12 PM
Surr: BFB	129	15-244		%Rec	1	8/31/2023 7:50:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/31/2023 7:50:12 PM
Toluene	ND	0.049		mg/Kg	1	8/31/2023 7:50:12 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/31/2023 7:50:12 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/31/2023 7:50:12 PM
Surr: 4-Bromofluorobenzene	110	39.1-146		%Rec	1	8/31/2023 7:50:12 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	9200	600		mg/Kg	200	9/1/2023 8:01:45 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308F19**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-13 1'
Project: Hackberry 18
Collection Date: 8/19/2023 11:45:00 AM
Lab ID: 2308F19-012 **Matrix:** SOIL
Received Date: 8/29/2023 7:55:00 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	9/1/2023 1:11:37 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/1/2023 1:11:37 AM
Surr: DNOP	109	69-147		%Rec	1	9/1/2023 1:11:37 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/31/2023 8:37:32 PM
Surr: BFB	95.4	15-244		%Rec	1	8/31/2023 8:37:32 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	8/31/2023 8:37:32 PM
Toluene	ND	0.047		mg/Kg	1	8/31/2023 8:37:32 PM
Ethylbenzene	ND	0.047		mg/Kg	1	8/31/2023 8:37:32 PM
Xylenes, Total	ND	0.093		mg/Kg	1	8/31/2023 8:37:32 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	8/31/2023 8:37:32 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	320	60		mg/Kg	20	8/31/2023 8:05:15 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F19**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-13 4'
Project: Hackberry 18 **Collection Date:** 8/19/2023 1:00:00 PM
Lab ID: 2308F19-013 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	12	9.3		mg/Kg	1	9/1/2023 1:22:42 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/1/2023 1:22:42 AM
Surr: DNOP	112	69-147		%Rec	1	9/1/2023 1:22:42 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/31/2023 9:01:05 PM
Surr: BFB	95.1	15-244		%Rec	1	8/31/2023 9:01:05 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	8/31/2023 9:01:05 PM
Toluene	ND	0.050		mg/Kg	1	8/31/2023 9:01:05 PM
Ethylbenzene	ND	0.050		mg/Kg	1	8/31/2023 9:01:05 PM
Xylenes, Total	ND	0.099		mg/Kg	1	8/31/2023 9:01:05 PM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	8/31/2023 9:01:05 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	330	60		mg/Kg	20	8/31/2023 8:42:30 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F19**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-14 0'
Project: Hackberry 18 **Collection Date:** 8/19/2023 1:15:00 PM
Lab ID: 2308F19-014 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 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	9/1/2023 1:33:45 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/1/2023 1:33:45 AM
Surr: DNOP	127	69-147		%Rec	1	9/1/2023 1:33:45 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/31/2023 9:24:41 PM
Surr: BFB	96.6	15-244		%Rec	1	8/31/2023 9:24:41 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	8/31/2023 9:24:41 PM
Toluene	ND	0.050		mg/Kg	1	8/31/2023 9:24:41 PM
Ethylbenzene	ND	0.050		mg/Kg	1	8/31/2023 9:24:41 PM
Xylenes, Total	ND	0.10		mg/Kg	1	8/31/2023 9:24:41 PM
Surr: 4-Bromofluorobenzene	107	39.1-146		%Rec	1	8/31/2023 9:24:41 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	2100	60		mg/Kg	20	8/31/2023 8:54:54 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F19**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-14 2'
Project: Hackberry 18 **Collection Date:** 8/19/2023 1:30:00 PM
Lab ID: 2308F19-015 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 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	9/1/2023 1:44:47 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/1/2023 1:44:47 AM
Surr: DNOP	94.0	69-147		%Rec	1	9/1/2023 1:44:47 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/31/2023 10:11:38 PM
Surr: BFB	92.5	15-244		%Rec	1	8/31/2023 10:11:38 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	8/31/2023 10:11:38 PM
Toluene	ND	0.050		mg/Kg	1	8/31/2023 10:11:38 PM
Ethylbenzene	ND	0.050		mg/Kg	1	8/31/2023 10:11:38 PM
Xylenes, Total	ND	0.099		mg/Kg	1	8/31/2023 10:11:38 PM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	8/31/2023 10:11:38 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	2200	150		mg/Kg	50	9/1/2023 8:14:10 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F19**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 18

Sample ID: **MB-77235**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **77235**	RunNo: **99401**
Prep Date: **8/31/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627541** Units: **mg/Kg**

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

Sample ID: **LCS-77235**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **77235**	RunNo: **99401**
Prep Date: **8/31/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627543** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.8	90	110			

Sample ID: **MB-77241**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **77241**	RunNo: **99389**
Prep Date: **8/31/2023**	Analysis Date: **8/31/2023**	SeqNo: **3628254** Units: **mg/Kg**

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

Sample ID: **LCS-77241**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **77241**	RunNo: **99389**
Prep Date: **8/31/2023**	Analysis Date: **8/31/2023**	SeqNo: **3628255** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.1	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 Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F19**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 18

Sample ID: **LCS-77177**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77177**	RunNo: **99380**
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627016** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.7		5.000		114	69	147			

Sample ID: **LCS-77185**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77185**	RunNo: **99380**
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627017** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	61	10	50.00	0	121	61.9	130			
Surr: DNOP	6.6		5.000		131	69	147			

Sample ID: **MB-77177**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77177**	RunNo: **99380**
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627018** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		116	69	147			

Sample ID: **MB-77185**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77185**	RunNo: **99380**
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627019** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	13		10.00		126	69	147			

Sample ID: **LCS-77175**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77175**	RunNo: **99380**
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627542** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	87.0	61.9	130			
Surr: DNOP	4.7		5.000		93.3	69	147			

Sample ID: **LCS-77176**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77176**	RunNo: **99380**
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627544** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.5		5.000		109	69	147			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F19**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 18

Sample ID: **LCS-77208**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77208**	RunNo: **99380**
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627545** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.9		5.000		119	69	147			

Sample ID: **LCS-77213**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77213**	RunNo: **99380**
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627547** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.3		5.000		105	69	147			

Sample ID: **MB-77175**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77175**	RunNo: **99380**
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627550** 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		114	69	147			

Sample ID: **MB-77176**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77176**	RunNo: **99380**
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627552** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	13		10.00		126	69	147			

Sample ID: **MB-77208**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77208**	RunNo: **99380**
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627556** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	13		10.00		131	69	147			

Sample ID: **MB-77213**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77213**	RunNo: **99380**
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627557** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		108	69	147			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F19**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 18

Sample ID: **lcs-77140** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **77140** RunNo: **99342**
Prep Date: **8/28/2023** Analysis Date: **8/30/2023** SeqNo: **3624717** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1900		1000		192	15	244			

Sample ID: **mb-77140** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **77140** RunNo: **99342**
Prep Date: **8/28/2023** Analysis Date: **8/30/2023** SeqNo: **3624718** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	950		1000		94.7	15	244			

Sample ID: **lcs-77168** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **77168** RunNo: **99342**
Prep Date: **8/29/2023** Analysis Date: **8/30/2023** SeqNo: **3625866** 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	70	130			
Surr: BFB	1900		1000		195	15	244			

Sample ID: **mb-77168** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **77168** RunNo: **99342**
Prep Date: **8/29/2023** Analysis Date: **8/30/2023** SeqNo: **3625867** 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	960		1000		96.0	15	244			

Sample ID: **lcs-77179** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **77179** RunNo: **99366**
Prep Date: **8/29/2023** Analysis Date: **8/31/2023** SeqNo: **3627634** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.6	70	130			
Surr: BFB	2000		1000		203	15	244			

Sample ID: **lcs-77198** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **77198** RunNo: **99366**
Prep Date: **8/30/2023** Analysis Date: **9/1/2023** SeqNo: **3627635** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1900		1000		193	15	244			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F19**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 18

Sample ID: **mb-77198**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77198**	RunNo: **99366**
Prep Date: **8/30/2023**	Analysis Date: **9/1/2023**	SeqNo: **3627636** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	940		1000		93.9	15	244			

Sample ID: **2308f19-005ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-11 0'**	Batch ID: **77179**	RunNo: **99366**
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627638** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	24.04	0	95.2	70	130			
Surr: BFB	1900		961.5		200	15	244			

Sample ID: **2308f19-005amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-11 0'**	Batch ID: **77179**	RunNo: **99366**
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627639** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	24.13	0	93.8	70	130	1.10	20	
Surr: BFB	1900		965.3		200	15	244	0	0	

Sample ID: **mb-77179**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77179**	RunNo: **99366**
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627706** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	980		1000		98.3	15	244			

Sample ID: **lcs-77172**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **77172**	RunNo: **99411**
Prep Date: **8/29/2023**	Analysis Date: **9/2/2023**	SeqNo: **3628857** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1900		1000		191	15	244			

Sample ID: **mb-77172**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77172**	RunNo: **99411**
Prep Date: **8/29/2023**	Analysis Date: **9/2/2023**	SeqNo: **3628859** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	940		1000		93.5	15	244			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F19**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 18

Sample ID: **LCS-77168** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **77168** RunNo: **99342**

Prep Date: **8/29/2023** Analysis Date: **8/30/2023** SeqNo: **3625922** 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	102	70	130			
Toluene	1.0	0.050	1.000	0	103	70	130			
Ethylbenzene	1.1	0.050	1.000	0	105	70	130			
Xylenes, Total	3.2	0.10	3.000	0	107	70	130			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	39.1	146			

Sample ID: **mb-77168** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **77168** RunNo: **99342**

Prep Date: **8/29/2023** Analysis Date: **8/30/2023** SeqNo: **3625923** 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		107	39.1	146			

Sample ID: **LCS-77179** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **77179** RunNo: **99366**

Prep Date: **8/29/2023** Analysis Date: **8/31/2023** SeqNo: **3627739** 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	108	70	130			
Toluene	1.1	0.050	1.000	0	108	70	130			
Ethylbenzene	1.1	0.050	1.000	0	111	70	130			
Xylenes, Total	3.3	0.10	3.000	0	112	70	130			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	39.1	146			

Sample ID: **LCS-77198** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **77198** RunNo: **99366**

Prep Date: **8/30/2023** Analysis Date: **9/1/2023** SeqNo: **3627740** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		106	39.1	146			

Sample ID: **mb-77198** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **77198** RunNo: **99366**

Prep Date: **8/30/2023** Analysis Date: **9/1/2023** SeqNo: **3627741** Units: **%Rec**

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F19**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 18

Sample ID: **mb-77198**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77198**	RunNo: **99366**
Prep Date: **8/30/2023**	Analysis Date: **9/1/2023**	SeqNo: **3627741** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		106	39.1	146			

Sample ID: **mb-77179**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77179**	RunNo: **99366**
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627742** 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		107	39.1	146			

Sample ID: **2308f19-006ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-11 2'**	Batch ID: **77179**	RunNo: **99366**
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627828** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9833	0	108	70	130			
Toluene	1.1	0.049	0.9833	0	109	70	130			
Ethylbenzene	1.1	0.049	0.9833	0	110	70	130			
Xylenes, Total	3.3	0.098	2.950	0	112	70	130			
Surr: 4-Bromofluorobenzene	1.0		0.9833		105	39.1	146			

Sample ID: **2308f19-006amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-11 2'**	Batch ID: **77179**	RunNo: **99366**
Prep Date: **8/29/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627829** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9843	0	112	70	130	3.45	20	
Toluene	1.1	0.049	0.9843	0	112	70	130	3.04	20	
Ethylbenzene	1.1	0.049	0.9843	0	114	70	130	3.30	20	
Xylenes, Total	3.4	0.098	2.953	0	116	70	130	3.72	20	
Surr: 4-Bromofluorobenzene	1.0		0.9843		104	39.1	146	0	0	

Sample ID: **LCS-77172**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77172**	RunNo: **99411**
Prep Date: **8/29/2023**	Analysis Date: **9/2/2023**	SeqNo: **3628971** Units: **%Rec**

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F19**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 18

Sample ID: **LCS-77172**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77172**	RunNo: **99411**
Prep Date: **8/29/2023**	Analysis Date: **9/2/2023**	SeqNo: **3628971** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		108	39.1	146			

Sample ID: **mb-77172**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77172**	RunNo: **99411**
Prep Date: **8/29/2023**	Analysis Date: **9/2/2023**	SeqNo: **3628973** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		105	39.1	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 Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Vertex Resources Services, Inc.

Work Order Number: 2308F19

RcptNo: 1

Received By: Tracy Casarrubias 8/29/2023 7:55:00 AM

Completed By: Tracy Casarrubias 8/29/2023 8:29:12 AM

Reviewed By: JH 8-29-23

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 ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: TMS 8/29/23

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions: Mailing address,phone number and Email/Fax are missing on COC- TMC 8/29/23

16. Additional remarks:

Client did not relinquish chain of custody

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.6	Good	Yes	Yogi		

Chain-of-Custody Record

Client: Vertex (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: 3 DAY
☑ Standard ☐ Rush 3 DAY

Project Name: Hackberry 18

Project #: 23E-03903

Project Manager: Kent Stallings

Sampler: Zach Englehart

On Ice: ☑ Yes ☐ No 4091

# of Coolers: 1

Cooler Temp(including CF): 5.7-0.1=5.6 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308F19
8-19-23	9:00	soil	BH23-09 0'	1 jar	ice	001
	9:15		BH23-09 2'			002
	9 30		BH23-10 0'			003
	9 45		BH23-10 2'			004
	10 00		BH23-11 0'			005
	10 15		BH23-11 2'			006
	10 30		BH23-12 0'			007
	10 45		BH23-12 2'			008
	11 00		BH23-12 3.5'			009
	11 15		BH23-12 4'			010
	11 30		BH23-13 0'			011
	11 45		BH23-13 2'			012

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)

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					8/28/23	845
Date: 8/28/23	Time: 1900	Relinquished by:	Received by:	Via: Courier	Date 8/29/23	Time 7:55

Remarks: Direct Bill to Devon
CC: kstallings@vertex.ca
aharris@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.

Chain-of-Custody Record

Client: Vertex (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: ☑ Standard ☑ Rush 3 DAY

Project Name: Hackberry 18

Project #: 23E-03903

Project Manager: Kent Stalllings

Sampler: Zach Englbert

On Ice: ☑ Yes ☐ No yogi

# of Coolers: 1

Cooler Temp (Including CF): 5.7-0.1=5.6 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308F19	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)
8-19-23	13:00	soil	BH23-13 4'	1 jar	ice	013	X	X					X			
↓	13:15	↓	BH23-14 0'	↓	↓	014	↓	↓					↓			
↓	13:30	↓	BH23-14 2'	↓	↓	015	↓	↓					↓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
			[signature]		8/28/23	845
8/28/23	1900	[signature]	[signature]	courier	8/29/23	7:55

Remarks: Direct Bill to Devon
CC: Kstallings@vertex.ca
aharris@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.

2 of 2

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 11, 2023

Kent Stallings

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL:
FAX:

RE: Hackberry 18 Fed 2 OrderNo.: 2308F20

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 16 sample(s) on 8/29/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2308F20**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-15 0'
Project: Hackberry 18 Fed 2 **Collection Date:** 8/20/2023 9:00:00 AM
Lab ID: 2308F20-001 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/31/2023 1:32:00 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/31/2023 1:32:00 PM
Surr: DNOP	123	69-147		%Rec	1	8/31/2023 1:32:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/1/2023 11:42:17 AM
Surr: BFB	92.2	15-244		%Rec	1	9/1/2023 11:42:17 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	9/1/2023 11:42:17 AM
Toluene	ND	0.050		mg/Kg	1	9/1/2023 11:42:17 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/1/2023 11:42:17 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/1/2023 11:42:17 AM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	9/1/2023 11:42:17 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	84	60		mg/Kg	20	8/31/2023 10:50:53 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F20**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-15 2'
Project: Hackberry 18 Fed 2 **Collection Date:** 8/20/2023 9:15:00 AM
Lab ID: 2308F20-002 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/31/2023 1:55:55 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/31/2023 1:55:55 PM
Surr: DNOP	126	69-147		%Rec	1	8/31/2023 1:55:55 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/1/2023 12:05:44 PM
Surr: BFB	92.1	15-244		%Rec	1	9/1/2023 12:05:44 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 12:05:44 PM
Toluene	ND	0.049		mg/Kg	1	9/1/2023 12:05:44 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/1/2023 12:05:44 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/1/2023 12:05:44 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	9/1/2023 12:05:44 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	860	60		mg/Kg	20	8/31/2023 11:03:18 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F20**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-16 0'
Project: Hackberry 18 Fed 2 **Collection Date:** 8/20/2023 9:30:00 AM
Lab ID: 2308F20-003 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	100	9.9		mg/Kg	1	8/31/2023 2:19:49 PM
Motor Oil Range Organics (MRO)	140	50		mg/Kg	1	8/31/2023 2:19:49 PM
Surr: DNOP	84.1	69-147		%Rec	1	8/31/2023 2:19:49 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/1/2023 1:19:12 AM
Surr: BFB	89.6	15-244		%Rec	1	9/1/2023 1:19:12 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 1:19:12 AM
Toluene	ND	0.048		mg/Kg	1	9/1/2023 1:19:12 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/1/2023 1:19:12 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/1/2023 1:19:12 AM
Surr: 4-Bromofluorobenzene	100	39.1-146		%Rec	1	9/1/2023 1:19:12 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	1300	60		mg/Kg	20	8/31/2023 11:15:42 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F20**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-16 2'
Project: Hackberry 18 Fed 2 **Collection Date:** 8/20/2023 9:45:00 AM
Lab ID: 2308F20-004 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/31/2023 2:43:46 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/31/2023 2:43:46 PM
Surr: DNOP	101	69-147		%Rec	1	8/31/2023 2:43:46 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/1/2023 1:42:34 AM
Surr: BFB	91.5	15-244		%Rec	1	9/1/2023 1:42:34 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 1:42:34 AM
Toluene	ND	0.048		mg/Kg	1	9/1/2023 1:42:34 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/1/2023 1:42:34 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/1/2023 1:42:34 AM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	9/1/2023 1:42:34 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	1900	60		mg/Kg	20	8/31/2023 11:28:06 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F20**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-17 0'
Project: Hackberry 18 Fed 2
Collection Date: 8/20/2023 10:00:00 AM
Lab ID: 2308F20-005 **Matrix:** SOIL
Received Date: 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/31/2023 3:07:39 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/31/2023 3:07:39 PM
Surr: DNOP	148	69-147	S	%Rec	1	8/31/2023 3:07:39 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/1/2023 2:06:01 AM
Surr: BFB	93.3	15-244		%Rec	1	9/1/2023 2:06:01 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	9/1/2023 2:06:01 AM
Toluene	ND	0.047		mg/Kg	1	9/1/2023 2:06:01 AM
Ethylbenzene	ND	0.047		mg/Kg	1	9/1/2023 2:06:01 AM
Xylenes, Total	ND	0.093		mg/Kg	1	9/1/2023 2:06:01 AM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	9/1/2023 2:06:01 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	8/31/2023 11:40:30 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F20**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-17 2'
Project: Hackberry 18 Fed 2 **Collection Date:** 8/20/2023 10:15:00 AM
Lab ID: 2308F20-006 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/31/2023 3:31:38 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/31/2023 3:31:38 PM
Surr: DNOP	121	69-147		%Rec	1	8/31/2023 3:31:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/1/2023 2:29:22 AM
Surr: BFB	91.3	15-244		%Rec	1	9/1/2023 2:29:22 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	9/1/2023 2:29:22 AM
Toluene	ND	0.050		mg/Kg	1	9/1/2023 2:29:22 AM
Ethylbenzene	ND	0.050		mg/Kg	1	9/1/2023 2:29:22 AM
Xylenes, Total	ND	0.099		mg/Kg	1	9/1/2023 2:29:22 AM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	9/1/2023 2:29:22 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	8/31/2023 11:52:55 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308F20**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-18 0'
Project: Hackberry 18 Fed 2 **Collection Date:** 8/20/2023 10:30:00 AM
Lab ID: 2308F20-007 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/31/2023 3:55:31 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/31/2023 3:55:31 PM
Surr: DNOP	117	69-147		%Rec	1	8/31/2023 3:55:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/1/2023 2:52:49 AM
Surr: BFB	93.6	15-244		%Rec	1	9/1/2023 2:52:49 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	9/1/2023 2:52:49 AM
Toluene	ND	0.049		mg/Kg	1	9/1/2023 2:52:49 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/1/2023 2:52:49 AM
Xylenes, Total	ND	0.098		mg/Kg	1	9/1/2023 2:52:49 AM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	9/1/2023 2:52:49 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	5000	150		mg/Kg	50	9/1/2023 7:24:32 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F20**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-18 2'
Project: Hackberry 18 Fed 2
Collection Date: 8/20/2023 10:45:00 AM
Lab ID: 2308F20-008 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/31/2023 4:19:22 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/31/2023 4:19:22 PM
Surr: DNOP	136	69-147		%Rec	1	8/31/2023 4:19:22 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/1/2023 3:16:31 AM
Surr: BFB	92.8	15-244		%Rec	1	9/1/2023 3:16:31 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 3:16:31 AM
Toluene	ND	0.047		mg/Kg	1	9/1/2023 3:16:31 AM
Ethylbenzene	ND	0.047		mg/Kg	1	9/1/2023 3:16:31 AM
Xylenes, Total	ND	0.095		mg/Kg	1	9/1/2023 3:16:31 AM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	9/1/2023 3:16:31 AM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	550	60		mg/Kg	20	9/1/2023 12:42:33 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F20**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-19 0'
Project: Hackberry 18 Fed 2
Collection Date: 8/20/2023 11:00:00 AM
Lab ID: 2308F20-009 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/31/2023 4:43:15 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/31/2023 4:43:15 PM
Surr: DNOP	136	69-147		%Rec	1	8/31/2023 4:43:15 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/1/2023 3:40:00 AM
Surr: BFB	91.0	15-244		%Rec	1	9/1/2023 3:40:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 3:40:00 AM
Toluene	ND	0.049		mg/Kg	1	9/1/2023 3:40:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/1/2023 3:40:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	9/1/2023 3:40:00 AM
Surr: 4-Bromofluorobenzene	102	39.1-146		%Rec	1	9/1/2023 3:40:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	200	60		mg/Kg	20	9/1/2023 12:34:08 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F20**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-19 2'
Project: Hackberry 18 Fed 2 **Collection Date:** 8/20/2023 11:15:00 AM
Lab ID: 2308F20-010 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/31/2023 5:07:20 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/31/2023 5:07:20 PM
Surr: DNOP	121	69-147		%Rec	1	8/31/2023 5:07:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/1/2023 4:03:23 AM
Surr: BFB	94.4	15-244		%Rec	1	9/1/2023 4:03:23 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 4:03:23 AM
Toluene	ND	0.049		mg/Kg	1	9/1/2023 4:03:23 AM
Ethylbenzene	ND	0.049		mg/Kg	1	9/1/2023 4:03:23 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/1/2023 4:03:23 AM
Surr: 4-Bromofluorobenzene	106	39.1-146		%Rec	1	9/1/2023 4:03:23 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	860	60		mg/Kg	20	9/1/2023 1:11:22 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F20**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-20 0'
Project: Hackberry 18 Fed 2 **Collection Date:** 8/20/2023 11:30:00 AM
Lab ID: 2308F20-011 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/31/2023 5:31:39 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/31/2023 5:31:39 PM
Surr: DNOP	127	69-147		%Rec	1	8/31/2023 5:31:39 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/1/2023 4:26:46 AM
Surr: BFB	95.0	15-244		%Rec	1	9/1/2023 4:26:46 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 4:26:46 AM
Toluene	ND	0.048		mg/Kg	1	9/1/2023 4:26:46 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/1/2023 4:26:46 AM
Xylenes, Total	ND	0.096		mg/Kg	1	9/1/2023 4:26:46 AM
Surr: 4-Bromofluorobenzene	107	39.1-146		%Rec	1	9/1/2023 4:26:46 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	5000	150		mg/Kg	50	9/5/2023 9:55:04 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308F20**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-20 2'
Project: Hackberry 18 Fed 2 **Collection Date:** 8/20/2023 11:45:00 AM
Lab ID: 2308F20-012 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/31/2023 5:56:18 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/31/2023 5:56:18 PM
Surr: DNOP	70.3	69-147		%Rec	1	8/31/2023 5:56:18 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/1/2023 5:13:34 AM
Surr: BFB	92.6	15-244		%Rec	1	9/1/2023 5:13:34 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 5:13:34 AM
Toluene	ND	0.047		mg/Kg	1	9/1/2023 5:13:34 AM
Ethylbenzene	ND	0.047		mg/Kg	1	9/1/2023 5:13:34 AM
Xylenes, Total	ND	0.094		mg/Kg	1	9/1/2023 5:13:34 AM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	9/1/2023 5:13:34 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	1600	60		mg/Kg	20	9/1/2023 2:01:01 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F20**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-21 0'
Project: Hackberry 18 Fed 2 **Collection Date:** 8/20/2023 12:00:00 PM
Lab ID: 2308F20-013 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/31/2023 6:46:17 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/31/2023 6:46:17 PM
Surr: DNOP	83.3	69-147		%Rec	1	8/31/2023 6:46:17 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/1/2023 5:37:03 AM
Surr: BFB	91.8	15-244		%Rec	1	9/1/2023 5:37:03 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 5:37:03 AM
Toluene	ND	0.048		mg/Kg	1	9/1/2023 5:37:03 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/1/2023 5:37:03 AM
Xylenes, Total	ND	0.097		mg/Kg	1	9/1/2023 5:37:03 AM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	9/1/2023 5:37:03 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	540	60		mg/Kg	20	9/1/2023 2:13:25 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F20**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-21 2'
Project: Hackberry 18 Fed 2 **Collection Date:** 8/20/2023 12:15:00 PM
Lab ID: 2308F20-014 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/31/2023 7:11:12 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/31/2023 7:11:12 PM
Surr: DNOP	138	69-147		%Rec	1	8/31/2023 7:11:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/1/2023 6:00:36 AM
Surr: BFB	92.6	15-244		%Rec	1	9/1/2023 6:00:36 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 6:00:36 AM
Toluene	ND	0.048		mg/Kg	1	9/1/2023 6:00:36 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/1/2023 6:00:36 AM
Xylenes, Total	ND	0.095		mg/Kg	1	9/1/2023 6:00:36 AM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	9/1/2023 6:00:36 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	620	60		mg/Kg	20	9/1/2023 2:25:50 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F20**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-22 0'
Project: Hackberry 18 Fed 2 **Collection Date:** 8/20/2023 12:30:00 PM
Lab ID: 2308F20-015 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/31/2023 7:35:58 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/31/2023 7:35:58 PM
Surr: DNOP	74.8	69-147		%Rec	1	8/31/2023 7:35:58 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/1/2023 6:24:03 AM
Surr: BFB	95.4	15-244		%Rec	1	9/1/2023 6:24:03 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	9/1/2023 6:24:03 AM
Toluene	ND	0.048		mg/Kg	1	9/1/2023 6:24:03 AM
Ethylbenzene	ND	0.048		mg/Kg	1	9/1/2023 6:24:03 AM
Xylenes, Total	ND	0.095		mg/Kg	1	9/1/2023 6:24:03 AM
Surr: 4-Bromofluorobenzene	107	39.1-146		%Rec	1	9/1/2023 6:24:03 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	97	60		mg/Kg	20	9/1/2023 3:03:05 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2308F20**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-22 2'
Project: Hackberry 18 Fed 2 **Collection Date:** 8/20/2023 12:45:00 PM
Lab ID: 2308F20-016 **Matrix:** SOIL **Received Date:** 8/29/2023 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/31/2023 8:00:44 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/31/2023 8:00:44 PM
Surr: DNOP	98.0	69-147		%Rec	1	8/31/2023 8:00:44 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/1/2023 6:47:28 AM
Surr: BFB	97.5	15-244		%Rec	1	9/1/2023 6:47:28 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	9/1/2023 6:47:28 AM
Toluene	ND	0.047		mg/Kg	1	9/1/2023 6:47:28 AM
Ethylbenzene	ND	0.047		mg/Kg	1	9/1/2023 6:47:28 AM
Xylenes, Total	ND	0.094		mg/Kg	1	9/1/2023 6:47:28 AM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	9/1/2023 6:47:28 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	220	60		mg/Kg	20	9/1/2023 3:15:30 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F20**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 18 Fed 2

Sample ID: **MB-77246**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **77246**	RunNo: **99401**							
Prep Date: **8/31/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627582**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77246**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **77246**	RunNo: **99401**							
Prep Date: **8/31/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627583**	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			

Sample ID: **MB-77256**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **77256**	RunNo: **99424**							
Prep Date: **9/1/2023**	Analysis Date: **9/1/2023**	SeqNo: **3629903**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77256**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **77256**	RunNo: **99424**							
Prep Date: **9/1/2023**	Analysis Date: **9/1/2023**	SeqNo: **3629904**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	16	1.5	15.00	0	105	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F20**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 18 Fed 2

Sample ID: **LCS-77177** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **77177** RunNo: **99380**
Prep Date: **8/29/2023** Analysis Date: **8/31/2023** SeqNo: **3627016** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.7		5.000		114	69	147			

Sample ID: **MB-77177** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **77177** RunNo: **99380**
Prep Date: **8/29/2023** Analysis Date: **8/31/2023** SeqNo: **3627018** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		116	69	147			

Sample ID: **LCS-77176** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **77176** RunNo: **99380**
Prep Date: **8/29/2023** Analysis Date: **8/31/2023** SeqNo: **3627544** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.5		5.000		109	69	147			

Sample ID: **LCS-77208** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **77208** RunNo: **99380**
Prep Date: **8/30/2023** Analysis Date: **8/31/2023** SeqNo: **3627545** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	10	50.00	0	110	61.9	130			
Surr: DNOP	5.9		5.000		119	69	147			

Sample ID: **LCS-77213** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **77213** RunNo: **99380**
Prep Date: **8/30/2023** Analysis Date: **8/31/2023** SeqNo: **3627547** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.3		5.000		105	69	147			

Sample ID: **MB-77176** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **77176** RunNo: **99380**
Prep Date: **8/29/2023** Analysis Date: **8/31/2023** SeqNo: **3627552** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	13		10.00		126	69	147			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F20**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 18 Fed 2

Sample ID: **MB-77208**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77208**	RunNo: **99380**
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627556** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	13		10.00		131	69	147			

Sample ID: **MB-77213**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77213**	RunNo: **99380**
Prep Date: **8/30/2023**	Analysis Date: **8/31/2023**	SeqNo: **3627557** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		108	69	147			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F20**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 18 Fed 2

Sample ID: **lcs-77198**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **77198**	RunNo: **99366**
Prep Date: **8/30/2023**	Analysis Date: **9/1/2023**	SeqNo: **3627635** 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	88.2	70	130			
Surr: BFB	1900		1000		193	15	244			

Sample ID: **mb-77198**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77198**	RunNo: **99366**
Prep Date: **8/30/2023**	Analysis Date: **9/1/2023**	SeqNo: **3627636** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		93.9	15	244			

Sample ID: **lcs-77172**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **77172**	RunNo: **99411**
Prep Date: **8/29/2023**	Analysis Date: **9/2/2023**	SeqNo: **3628857** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1900		1000		191	15	244			

Sample ID: **mb-77172**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77172**	RunNo: **99411**
Prep Date: **8/29/2023**	Analysis Date: **9/2/2023**	SeqNo: **3628859** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	940		1000		93.5	15	244			

Sample ID: **2308f20-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-15 0'**	Batch ID: **77198**	RunNo: **99411**
Prep Date: **8/30/2023**	Analysis Date: **9/1/2023**	SeqNo: **3628886** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	24.85	0	92.8	70	130			
Surr: BFB	2000		994.0		203	15	244			

Sample ID: **2308f20-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-15 0'**	Batch ID: **77198**	RunNo: **99411**
Prep Date: **8/30/2023**	Analysis Date: **9/1/2023**	SeqNo: **3628887** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	24.83	0	89.5	70	130	3.74	20	
Surr: BFB	2000		993.0		201	15	244	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F20**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 18 Fed 2

Sample ID: **LCS-77198** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **77198** RunNo: **99366**

Prep Date: **8/30/2023** Analysis Date: **9/1/2023** SeqNo: **3627740** 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	106	70	130			
Toluene	1.0	0.050	1.000	0	105	70	130			
Ethylbenzene	1.1	0.050	1.000	0	106	70	130			
Xylenes, Total	3.2	0.10	3.000	0	106	70	130			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	39.1	146			

Sample ID: **mb-77198** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **77198** RunNo: **99366**

Prep Date: **8/30/2023** Analysis Date: **9/1/2023** SeqNo: **3627741** 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	39.1	146			

Sample ID: **2308f20-002ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **BH23-15 2'** Batch ID: **77198** RunNo: **99411**

Prep Date: **8/30/2023** Analysis Date: **9/1/2023** SeqNo: **3628941** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9756	0	105	70	130			
Toluene	1.0	0.049	0.9756	0	106	70	130			
Ethylbenzene	1.0	0.049	0.9756	0	107	70	130			
Xylenes, Total	3.2	0.098	2.927	0	109	70	130			
Surr: 4-Bromofluorobenzene	1.0		0.9756		107	39.1	146			

Sample ID: **2308f20-002amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **BH23-15 2'** Batch ID: **77198** RunNo: **99411**

Prep Date: **8/30/2023** Analysis Date: **9/1/2023** SeqNo: **3628942** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9737	0	105	70	130	0.586	20	
Toluene	1.0	0.049	0.9737	0	107	70	130	0.690	20	
Ethylbenzene	1.1	0.049	0.9737	0	109	70	130	1.15	20	
Xylenes, Total	3.2	0.097	2.921	0	110	70	130	1.32	20	
Surr: 4-Bromofluorobenzene	1.1		0.9737		109	39.1	146	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308F20**

11-Sep-23

Client: Vertex Resources Services, Inc.

Project: Hackberry 18 Fed 2

Sample ID: **LCS-77172**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **LCSS**	Batch ID: **77172**	RunNo: **99411**							
Prep Date: **8/29/2023**	Analysis Date: **9/2/2023**	SeqNo: **3628971**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		108	39.1	146			

Sample ID: **mb-77172**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **77172**	RunNo: **99411**							
Prep Date: **8/29/2023**	Analysis Date: **9/2/2023**	SeqNo: **3628973**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		105	39.1	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 Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Vertex Resources Services, Inc.

Work Order Number: 2308F20

RcptNo: 1

Received By: Tracy Casarrubias 8/29/2023 7:55:00 AM

Completed By: Tracy Casarrubias 8/29/2023 8:40:51 AM

Reviewed By: JH 8-29-23

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 ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: JH 8/29/23

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions: Mailing address,phone number and Email/Fax are missing on COC- TMC 8/29/23

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0	Good	Yes	Yogi		

Chain-of-Custody Record

Client: Vertex (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:
☑ Standard ☑ Rush 5 Day

Project Name: Hackberry 18 Fed 2

Project #: 23E-03903

Project Manager: Kent Stallings

Sampler: Zach Englbert

On Ice: ☒ Yes ☐ No 4091

# of Coolers: 1

Cooler Temp(including CF): 0.1 - 0.1 = 0 (°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. 2308F20	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)
8-20-23	9:00	soil	BH23-15 0'	1 jar	ice	001										
	9:15		BH23-15 2'			002										
	9:30		BH23-16 0'			003										
	9:45		BH23-16 2'			004										
	10:00		BH23-17 0'			005										
	10:15		BH23-17 2'			006										
	10:30		BH23-18 0'			007										
	10:45		BH23-18 2'			008										
	11:00		BH23-19 0'			009										
	11:15		BH23-19 2'			010										
	11:30		BH23-20 0'			011										
	11:45		BH23-20 2'			012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					8/28/23	845
8/28/23	1400				8/29/23	7:55

Remarks:
CC aharris@vertex.ca
kstallings@vertex.ca
Direct Bill to Devon

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.

1 of 2

Chain-of-Custody Record

Client: Vertex (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:
☑ Standard ☑ Rush 5 Day

Project Name: Hackberry 18 Fed 2

Project #: 23E-03903

Project Manager: Kent Stallings

Sampler: Zach Englert

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.1 - 0.1 = 0 (°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. 2308F20	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)
8-2023	12:00	soil	BH23-21 0'	1 jar	ice	013										
	12:15		BH23-21 2'			014										
	12:30		BH23-22 0'			015										
	12:45		BH23-22 2'			016										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					8/28/23	845
Date: 8/28/23	Time: 1900	Relinquished by:	Received by:	Via: courier	Date 8/29/23	Time 7:55

Remarks:

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.

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

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

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 281842
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	The Remediation Plan is Conditionally Approved. All samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Floor confirmation samples should be delineated/excavated to meet closure criteria standards from Table 1 of the OCD Spill Rule for site assessment/characterization/proven depth to water determination. 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 collect confirmation samples, representing no more than 200 ft2. All sidewall samples should be taken from the sidewall of the excavation. Please make sure that the edge of the release extent is accurately defined. All off pad areas must meet reclamation standards set forth in the OCD Spill Rule. The work will need to occur in 90 days after the report has been reviewed.	3/5/2024