



July 24, 2020

Vertex Project #: 20E-00141-035

Spill Closure Report: Bilbrey 33 Federal Com 3H
Unit J, Section 33, Township 21 South, Range 32 East
County: Lea
API: 30-025-41806
Tracking Number: NCH1903651025

Prepared For: Devon Energy Production Company
6488 Seven Rivers Highway
Artesia, New Mexico 88210

New Mexico Oil Conservation Division – District 1 – Hobbs

1625 North French Drive
Hobbs, New Mexico 88240

Devon Energy Production Company (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a spill assessment and remediation, as necessary, for the illegal produced water dump (release) that occurred at Bilbrey 33 Federal Com 3H, API 30-025-41806 (hereafter referred to as “Bilbrey 33”). Devon provided notification of the release to New Mexico Oil Conservation Division (NM OCD) District 1 and the Bureau of Land Management (BLM), who owns the property, via submission of the initial C-141 Release Notification on January 16, 2019 (Attachment 1). The NM OCD tracking number assigned to this release is NCH1903651025.

This letter provides a description of the spill assessment and demonstrates that closure criteria established in 19.15.29.12 *New Mexico Administrative Code* (NMAC; New Mexico Oil Conservation Division, 2018) have been met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NM OCD for closure of this release.

Incident Description

In the early morning of January 1, 2019, an incident occurred at Devon’s Bilbrey 33 site when an unknown entity illegally dumped produced water on location. A water hauler found the release in the morning and notified the lease operator. This incident resulted in the release of approximately 61 barrels (bbls) of produced water onto the production wellpad; the release occurred on the edge of the wellpad with some produced water moving off-lease. No free liquids were recovered from the site. No produced water was released into sensitive areas or waterways.

Site Characterization

The release at Bilbrey 33 occurred on federally-owned land, N 32.435219, W 103.676091, approximately 30 miles east of Carlsbad, New Mexico. The legal description for the site is Unit J, Section 33, Township 21 South, Range 32 East, Lea County, New Mexico. This location is within the Permian Basin in southeast New Mexico and has historically been used for oil and gas exploration and production, and rangeland. An aerial photograph and site schematic are presented on

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Figure 1 (Attachment 2).

Bilbrey 33 is typical of oil and gas exploration and production sites in the western portion of the Permian Basin, and is currently used for oil and gas production, and storage. The following sections specifically describe the area surrounding the release site.

The surrounding landscape is associated with the southwestern plains, generally found at elevations of 3,000 to 3,900 feet above sea level, and is classified as farmland of statewide importance. The climate is semi-arid, with average annual precipitation ranging between 10 and 12 inches. Historically, the plant community has been dominated by black grama, dropseeds and bluestems, with scattered shinnery oak and sand sage. Perennial and annual forb abundance and distribution are dependent on precipitation. Litter and, to a lesser extent, bare ground make up a significant portion of the ground cover, while grasses compose the remainder (United States Department of Agriculture, Natural Resources Conservation Service, 2020). Limited to no vegetation is allowed to grow on the compacted production wellpad.

The *Geological Map of New Mexico* indicates the surface geology at Bilbrey 33 is comprised primarily of Qep – interlaid eolian sands and piedmont-slope deposits from the Holocene to middle Pleistocene ages (New Mexico Bureau of Geology and Mineral Resources, 2020). The National Resources Conservation Service Web Soil Survey characterizes the soil at the site as Pyote loamy fine sand, which is comprised of loamy fine sand over deep layers of fine sandy loam. It tends to be well-drained with negligible runoff and low available moisture levels in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2020). There is low potential for karst geology to be present near Bilbrey 33, although some erosional karst may be possible (United States Department of the Interior, United States Geological Survey, 2020).

There is no surface water located on-site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is an intermittent stream located approximately 0.4 miles southwest of the site (United States Fish and Wildlife Service, 2020). At Bilbrey 33, there are no continuously flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

The nearest active well to Bilbrey 33 is a New Mexico Office of the State Engineer (OSE) well from 2018 located approximately 1.3 miles east of the site, with a depth to groundwater of approximately 560 feet below ground surface (bgs; New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2020). The shallowest depth to groundwater identified in the vicinity is a 2014 OSE well located approximately 1.9 miles south of the site, with a depth to a water bearing stratification of 55 feet bgs (New Mexico Office of the State Engineer, New Mexico Interstate Stream Commission, 2020). Documentation pertaining to site characterization and depth to groundwater determination is included in Attachment 3.

Closure Criteria Determination

Using site characterization information, a closure criteria determination worksheet (Attachment 3) was completed to

determine if the release is subject to any of the special case scenarios outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

Based on data included in the closure criteria determination worksheet, the release at Bilbrey 33 is not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC. As the nearest groundwater well is further than 0.5 miles from the release site, the depth to groundwater at Bilbrey 33 cannot be accurately determined and the closure criteria for the site are determined to be associated with the following constituent concentration limits.

Table 1. Closure Criteria for Soils Impacted by a Release		
Depth to Groundwater	Constituent	Limit
< 50 feet	Chloride	600 mg/kg
	TPH ¹ (GRO + DRO + MRO)	100 mg/kg
	BTEX ²	50 mg/kg
	Benzene	10 mg/kg

¹ Total petroleum hydrocarbons (TPH) = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)

² Benzene, toluene, ethylbenzene and xylenes (BTEX)

Remedial Actions

As a significant amount of time had passed since the illegal dump and no impacts were visible from the reported area of the release, Vertex conducted an electromagnetic (EM) survey on May 8, 2020, using the Geonics EM31 Terrain Conductivity Meter to acquire ground conductivity measurements. The fixed-frequency EM method was used to map variations in ground conductivity to identify anomalously conductive soils and infer changes in the soil characteristics and composition. This method uses portable instrumentation consisting of a transmitter coil and a receiver coil. A primary magnetic field from the transmitter coil induces subsurface eddy currents, which in turn generate a secondary magnetic field that is intercepted by the receiver coil. The ratio of the primary and secondary magnetic fields is related to ground conductivity.

Ground conductivity is influenced by the following:

- Concentration of total dissolved solids within the groundwater
- Type of substrate
- Soil grain size (fine-grained clay is more electrically conductive than coarse-grained material such as sand or gravel)
- Soil temperature (conductivity decreases as soil temperature approaches freezing)

Data were collected continuously along transects spaced approximately 5 yards across the entire wellpad at Bilbrey 33. Data were logged using a Juniper Systems Archer2 Data Logger with an integrated global positioning system (GPS). The effective depth of investigation for the EM31, as operated during this investigation, was approximately 12 feet.

The conductivity values are not specific values from discrete depths, but are weighted averages of conductivity between the surface and the depth of exploration of the EM field, and are termed 'apparent conductivity'. The apparent conductivity values obtained are in units of millisiemens per metre (mS/m). The EM survey data from May 8, 2020, showed elevated apparent conductivity levels on the north and central portion of the wellpad, and on the far east edge of the lease.

The EM survey data were reviewed by Vertex geophysicists, who determined that the elevated apparent conductivity levels on the north and central portions of the wellpad, as well as right near the entrance to the lease road, were due to the presence of electrical and production equipment. The most likely location of the release and any remaining chloride impacts was determined to be on the eastern edge of the lease site as presented on Figure 2 (Attachment 2). The complete EM survey report is included in Attachment 4. Following that determination, soil characterization samples, collected from within the potentially impacted area and field screened for the presence of contaminants of concern, showed no significant remaining levels of chloride. Daily Field Reports (DFRs) for these site visits are included in Attachment 5.

On June 8, 2020, Vertex provided 48-hour notification of confirmation sampling to NM OCD (Attachment 6), as required by Subparagraph (a) of Paragraph (1) of Subsection D 19.15.29.12 NMAC. On June 11, 2020, Vertex collected a total of 35 five-point composite confirmatory samples from the base and walls of the projected release area (Attachment 2 – Figure 3). Each composite sample was representative of no more than 200 square feet per the alternate sampling method outlined in Subparagraph (c) of Paragraph (1) of Subsection D 19.15.29.12 NMAC, which does not require prior NM OCD approval. The composite samples were placed into laboratory-provided containers, preserved on ice, and submitted to a National Environmental Laboratory Accreditation Program-approved laboratory for chemical analysis.

Laboratory analyses included Method 300.0 for chlorides, Method 8021B for volatile organics, including BTEX, and EPA Method 8015 for TPH, including MRO, DRO and GRO. Confirmatory sampling analytical data are summarized in Table 2 (Attachment 7). Laboratory data reports and chain of custody forms are included in Attachment 8.

A GeoExplorer 7000 Series Trimble GPS unit, or equivalent, was used to map the approximate center of each of the five-point composite samples. The confirmatory sampling locations are presented on Figure 3 (Attachment 2).

Of the 35 confirmatory samples, one sample (BS20-18) failed to meet NM OCD closure criteria. Vertex returned to site to scrape the affected area and re-collect the confirmatory sample. The final laboratory results for this sample point are presented in Table 2 (Attachment 7).

Closure Request

Vertex recommends no remediation action to address the release at Bilbrey 33. Laboratory analyses of the confirmatory samples showed constituent of concern concentration levels below NM OCD closure criteria for areas where depth to groundwater is less than 50 feet. There are no anticipated risks to human, ecological or hydrological receptors associated with the release site.

Vertex requests that incident NCH1903651025 be closed as all closure requirements set forth in Subsection E of

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19.15.29.12 NMAC have been met. Devon certifies that all information in this report and the attachments is correct, and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NM OCD requirements to obtain closure on the January 1, 2019, open release at Bilbrey 33.

Should you have any questions or concerns, please do not hesitate to contact the undersigned at 505.506.0040 or ngordon@vertex.ca.

Sincerely,



Natalie Gordon
PROJECT MANAGER

Attachments

- Attachment 1. NM OCD C-141 Report
- Attachment 2. Figures
- Attachment 3. Closure Criteria for Soils Impacted by a Release Research Determination Documentation
- Attachment 4. Electromagnetic Survey Report
- Attachment 5. Daily Field Report(s) with Photographs
- Attachment 6. Required 48-hr Notification of Liner Inspection to Regulatory Agencies
- Attachment 7. Confirmatory Sampling Laboratory Data Results
- Attachment 8. Laboratory Data Reports/Chain of Custody Forms

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References

- New Mexico Bureau of Geology and Mineral Resources. (2020). *Interactive Geologic Map*. Retrieved from <http://geoinfo.nmt.edu>
- New Mexico Office of the State Engineer, New Mexico Interstate Stream Commission. (2020). *OSE Pod Locations*. Retrieved from http://gis.ose.state.nm.us/gisapps/ose_pod_locations/
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- New Mexico Oil Conservation Division. (2018). *New Mexico Administrative Code – Natural Resources and Wildlife Oil and Gas Releases*. Santa Fe, New Mexico.
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- United States Department of the Interior, United States Geological Survey. (2020). *Caves and Karst in the U.S. National Park Service*. Retrieved from <https://www.arcgis.com/home/webmap/viewer.html?webmap=14675403c37948129acb758138f2dd1e>
- United States Fish and Wildlife Service. (2020). *National Wetlands Inventory*. Retrieved from <https://www.fws.gov/wetlands/data/Mapper.html>

Devon Energy Production Company
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Limitations

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

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

ATTACHMENT 1

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)

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

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input type="checkbox"/> 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

<input type="checkbox"/> The source of the release has been stopped.	
<input type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: _____	Title: _____
Signature: <u>Kendra DeHoyos</u>	Date: _____
email: _____	Telephone: _____
<u>OCD Only</u>	
Received by: _____	Date: _____

Incident ID	NCH1903651025
District RP	1RP-5341
Facility ID	
Application ID	pCH1903651338

Site Assessment/Characterization

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

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

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

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

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

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

Incident ID	NCH1903651025
District RP	1RP-5341
Facility ID	
Application ID	pCH1903651338

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: Tom Bynum Title: EHS Consultant
Signature: *Tom Bynum* Date: 7/27/2020
email: tom.bynum@dnv.com Telephone: 575-748-0176

OCD Only

Received by: _____ Date: _____

Incident ID	NCH1903651025
District RP	1RP-5341
Facility ID	
Application ID	pCH1903651338

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Tom Bynum Title: EHS Consultant
Signature: Tom Bynum Date: 7/27/2020
email: tom.bynum@dvn.com Telephone: 575-748-0176

OCD Only

Received by: Chad Hensley Date: 04/19/2021

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Chad Hensley Date: 04/19/2021
Printed Name: Chad Hensley Title: Environmental Specialist Advanced

ATTACHMENT 2

Document Path: G:\1-Projects\US PROJECTS\Devon Energy Corporation\20E-00141035 - Bilbrey 33 Fed Com 3H\Figure 1 Confirmatory Sampling Bilbrey 33 Fed Com 3H.mxd



 Approximate Lease Boundary  Secondary Containment



0 30 60 120 ft
Map Center:
Lat/Long: 32.435, -103.676

NAD 1983 UTM Zone 13N
Date: Jun 16/20



Site Schematic
Bilbrey 33 Federal Com 3H

FIGURE:

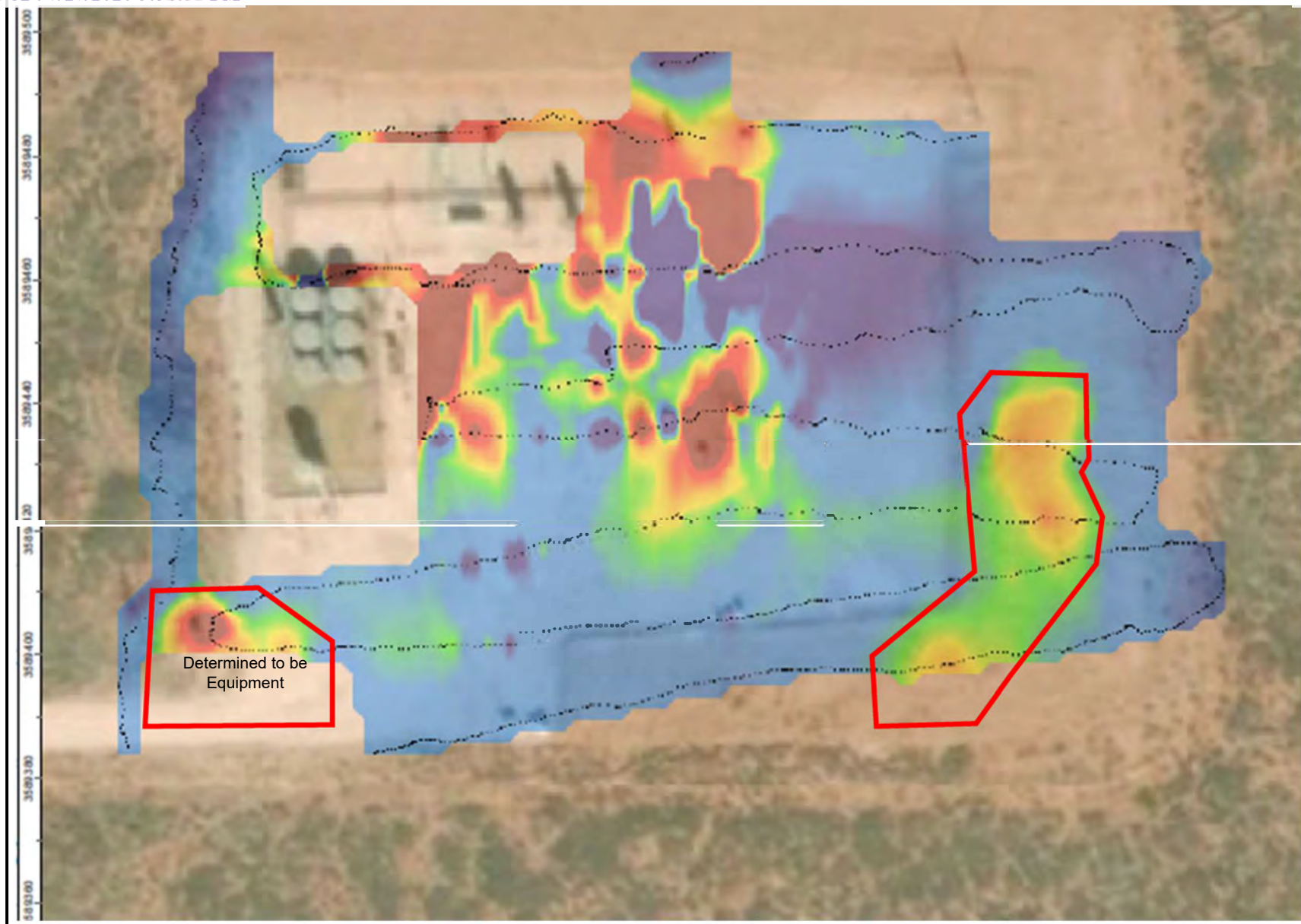
1





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.

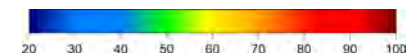
Note: Imagery from ESRI, 2018.

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 Areas of Potential Release

 Survey Track


20 30 40 50 60 70 80 90 100
Apparent Conductivity (mS/m)
(5 m Depth of Exploration)



0 25 50 100 ft
Map Center:
Lat/Long: 32.435, -103.676

NAD 1983 UTM Zone 13N
Date: Jun 16/20



EM 31 Apparent Conductivity Overlay
Bilbrey 33 Federal Com 3H

2

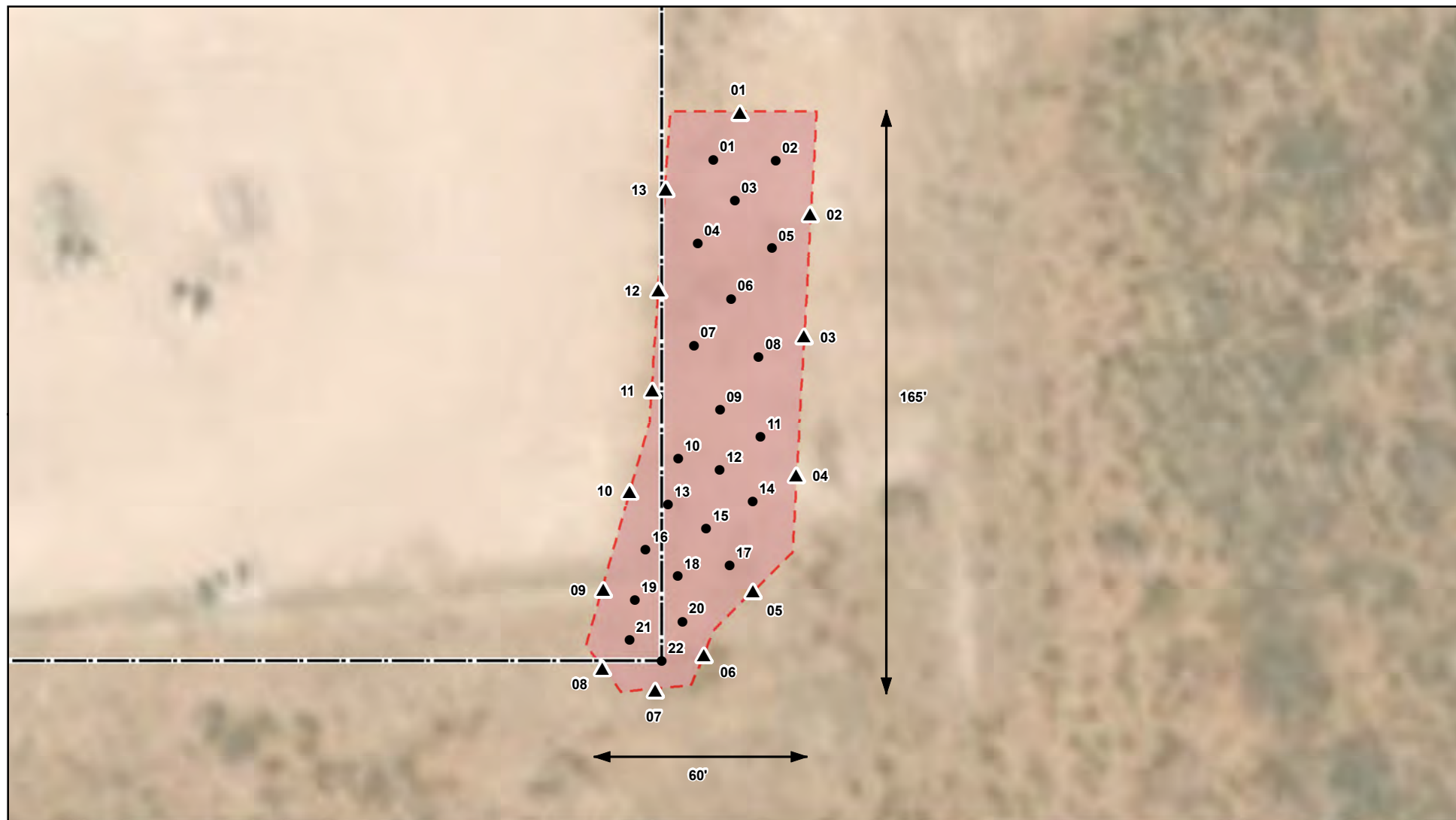


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Note: Imagery from ESRI, 2018.

VERSATILITY. EXPERTISE.

Document Path: G:\Projects\US PROJECTS\Devon Energy Corporation\20E-00141035 - Bilbrey 33 Fed Com 3H\Figure 1 Confirmatory Sampling Bilbrey 33 Fed Com 3H.mxd



- Base Sample (Prefixed by "BS20-")
- ▲ Wall Sample (Prefixed by "WS20-")
- Approximate Lease Boundary
- Approximate Spill Extent (~ 660 sq.ft.)



0 10 20 40 ft
Map Center:
Lat/Long: 32.434917, -103.674912

NAD 1983 UTM Zone 13N
Date: Jun 16/20



Confirmatory Sampling Schematic Bilbrey 33 Federal Com 3H

FIGURE:

3



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: Imagery from ESRI, 2018.

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ATTACHMENT 3

Closure Criteria Worksheet			
Site Name: Bilbrey 33 Fed Com 3H Closure Criteria Determination			
Spill Coordinates: 32.435219, -103.676091		X: 624460.73	Y: 3589449.41
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	560.00	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	2,092	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	19,189	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	108,435	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	7,057	feet
	ii) Within 1000 feet of any fresh water well or spring	7,057	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	6,028	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
10	Within a 100-year Floodplain	No	year
11	Soil Type	PT	Pyote loamy fine sand
NMAC 19.15.29.12 E (Table 1) Closure Criteria		>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	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 01701 POD1	CP	LE		1	3	35	21S	32E		626652	3589283	2151	840	560	280
C 03717 POD1	C	LE		4	4	1	09	22S	32E	624094	3586365	3098	650		

Average Depth to Water: **560 feet**

Minimum Depth: **560 feet**

Maximum Depth: **560 feet**

Record Count: 2

UTM NAD83 Radius Search (in meters):

Easting (X): 624506.48

Northing (Y): 3589437.22

Radius: 5000

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

3/2/20 3:07 PM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	TwS	Rng	X	Y
C	03717 POD1	4	4	1	09	22S	32E	624094	3586365

Driller License: 1058 **Driller Company:** KEY'S DRILLING & PUMP SERVICE

Driller Name: KEY, GARY

Drill Start Date: 08/04/2014 **Drill Finish Date:** 08/12/2014 **Plug Date:**

Log File Date: 08/26/2014 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 2 GPM

Casing Size: 10.00 **Depth Well:** 650 feet **Depth Water:**

Water Bearing Stratifications:

Top	Bottom	Description
55	72	Sandstone/Gravel/Conglomerate
620	630	Sandstone/Gravel/Conglomerate

Casing Perforations:

Top	Bottom
2	20

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7/9/20 3:11 PM

POINT OF DIVERSION SUMMARY



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	CP 01701 POD1	1	3	35	21S	32E		626652	3589283 
<hr/>									
Driller License:	1706	Driller Company:		ELITE DRILLERS CORPORATION					
Driller Name:	WALLACE, BRYCE J.								
Drill Start Date:	10/15/2018	Drill Finish Date:		11/29/2018		Plug Date:			
Log File Date:	12/13/2018	PCW Rev Date:						Source:	Artesian
Pump Type:		Pipe Discharge Size:						Estimated Yield:	30 GPM
Casing Size:	6.00	Depth Well:		840 feet		Depth Water:		560 feet	
<hr/>									
Water Bearing Stratifications:					Top	Bottom	Description		
					560	575	Sandstone/Gravel/Conglomerate		
					750	770	Sandstone/Gravel/Conglomerate		
<hr/>									
Casing Perforations:					Top	Bottom			
					460	840			
<hr/>									

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

6/10/20 12:18 PM

POINT OF DIVERSION SUMMARY



[USGS Home](#)
[Contact USGS](#)
[Search USGS](#)

National Water Information System: Web Interface

USGS Water Resources

Data Category: Geographic Area:
Site Information United States

Click to hideNews Bulletins

- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#) 

USGS 322314103384301 22S.32E.14.32322

Available data for this site

Well Site

DESCRIPTION:

Latitude 32°23'23", Longitude 103°38'53" NAD27
Lea County, New Mexico , Hydrologic Unit 13070007
Well depth: 435 feet
Land surface altitude: 3,717.00 feet above NGVD29.
Well completed in "Santa Rosa Sandstone" (231SNRS) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1972-09-13	1996-02-20	5
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to [New Mexico Water Science Center Water-Data Inquiries](#)

[Questions about sites/data?](#)

[Feedback on this web site](#)

[Automated retrievals](#)

[Help](#)

[Data Tips](#)

[Explanation of terms](#)

[Subscribe for system changes](#)

[News](#)

[Accessibility](#) [Plug-Ins](#) [FOIA](#) [Privacy](#) [Policies and Notices](#)

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

Title: **NWIS Site Information for USA: Site Inventory**

URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=322314103384301

Page Contact Information: [New Mexico Water Data Support Team](#)

Page Last Modified: 2020-06-10 14:05:46 EDT

0.4 0.4 caww02





U.S. Fish and Wildlife Service

National Wetlands Inventory

Bilbrey 33 Fed 3 - 2,091.5 ft



July 9, 2020

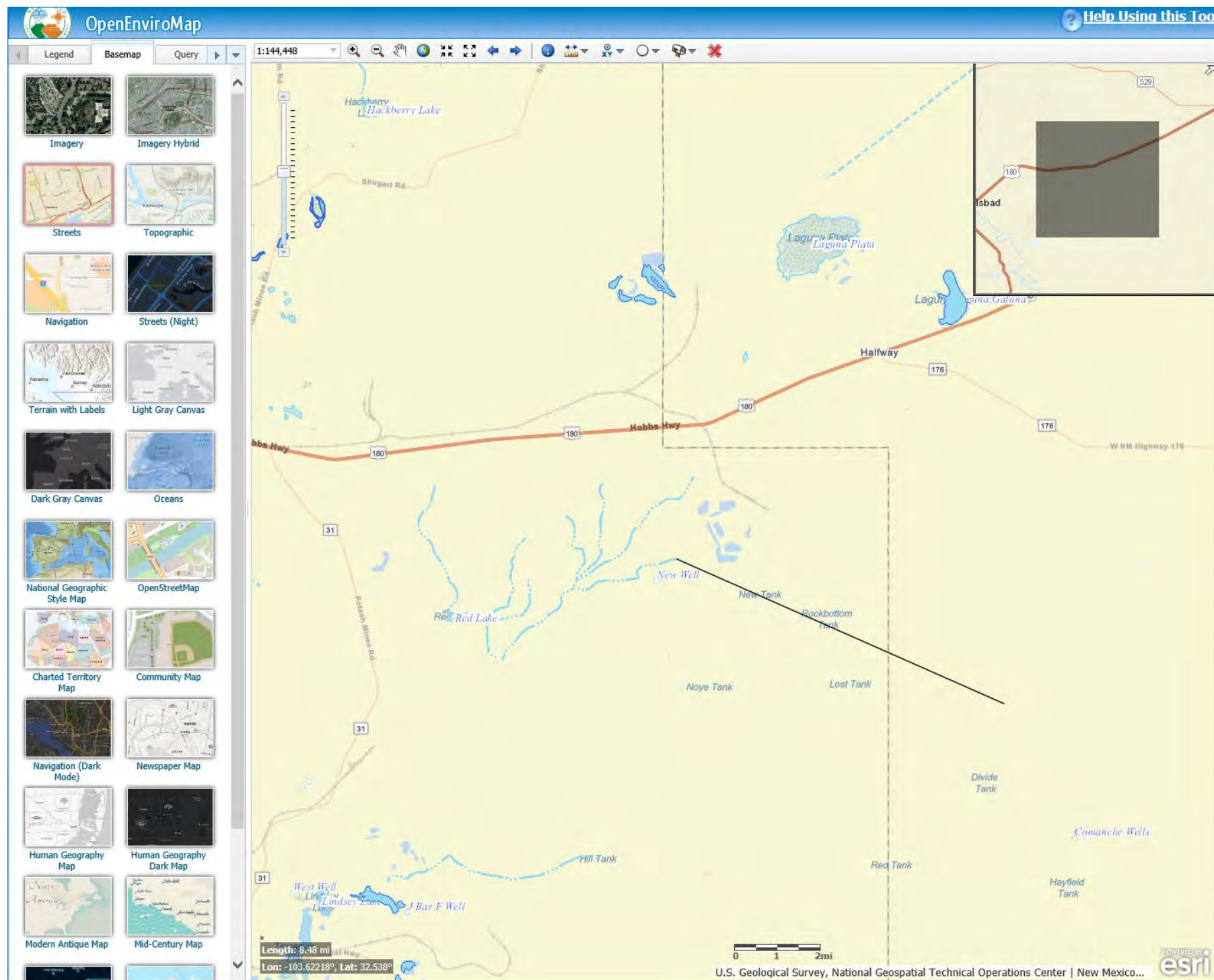
Wetlands

- 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.





Bilbrey 33 Fed Com 3H Lake 19,189 ft



March 2, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

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


- Lake
- Other
- Riverine

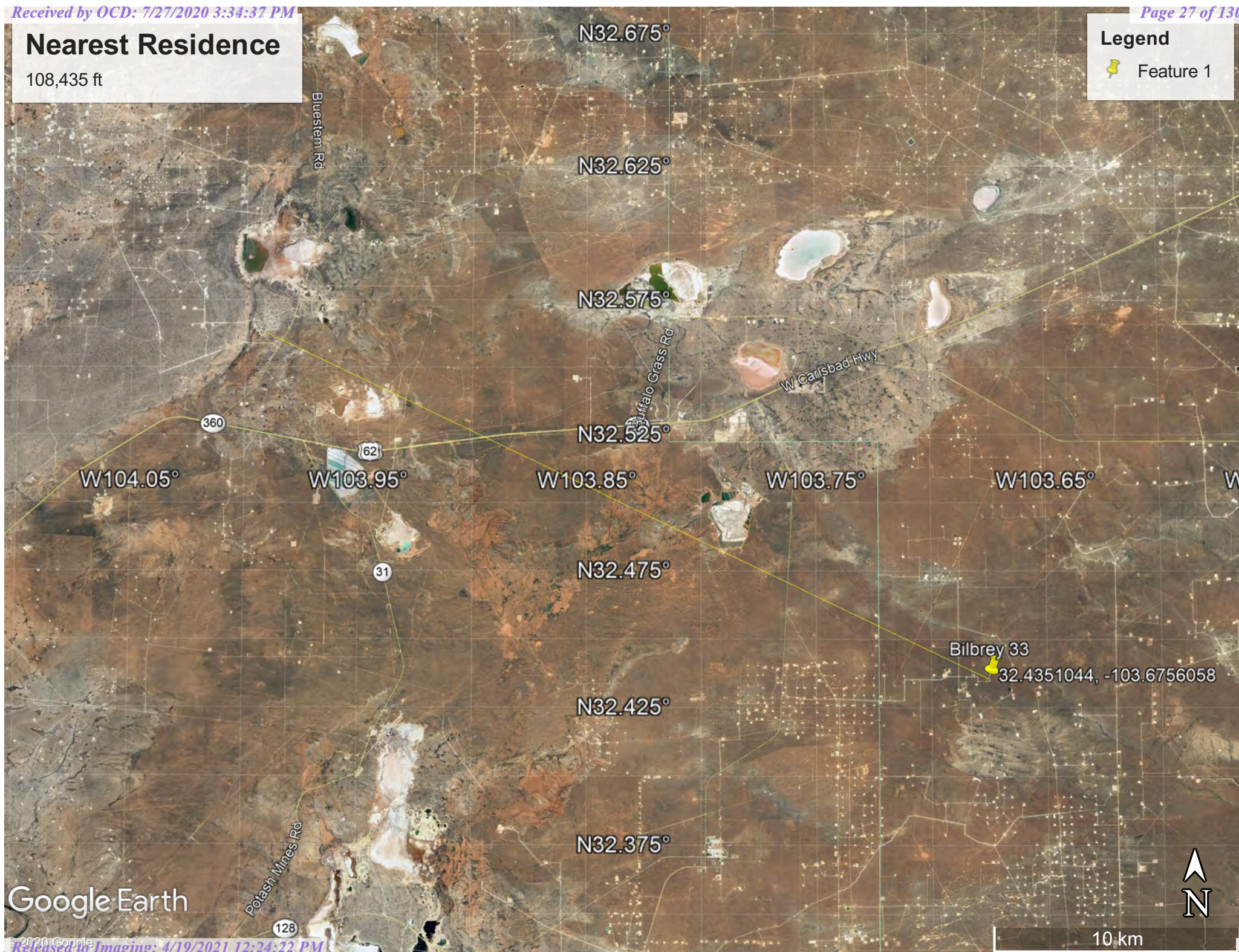
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Nearest Residence

108,435 ft

Legend

 Feature 1



Google Earth



New Mexico Office of the State Engineer
Active & Inactive Points of Diversion
 (with Ownership Information)

(R=POD has been replaced

and no longer serves this file, (quarters are 1=NW 2=NE 3=SW 4=SE)

C=the file is closed)

(quarters are smallest to largest)

(NAD83 UTM in meters)

WR File Nbr	Sub						Well		q q q									
	basin	Use	Diversion	Owner	County	POD Number	Tag	Code Grant	Source	6416	4	Sec	Tws	Rng	X	Y	Distance	
CP 01701	CP	COM		50 JIMMY MILLS 2005 GST TRUST	LE	CP 01701 POD1	NA		Artesian	1	3	35	21S	32E	626652	3589283		2151

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 624506.48

Northing (Y): 3589437.22

Radius: 2500

Sorted by: Distance

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

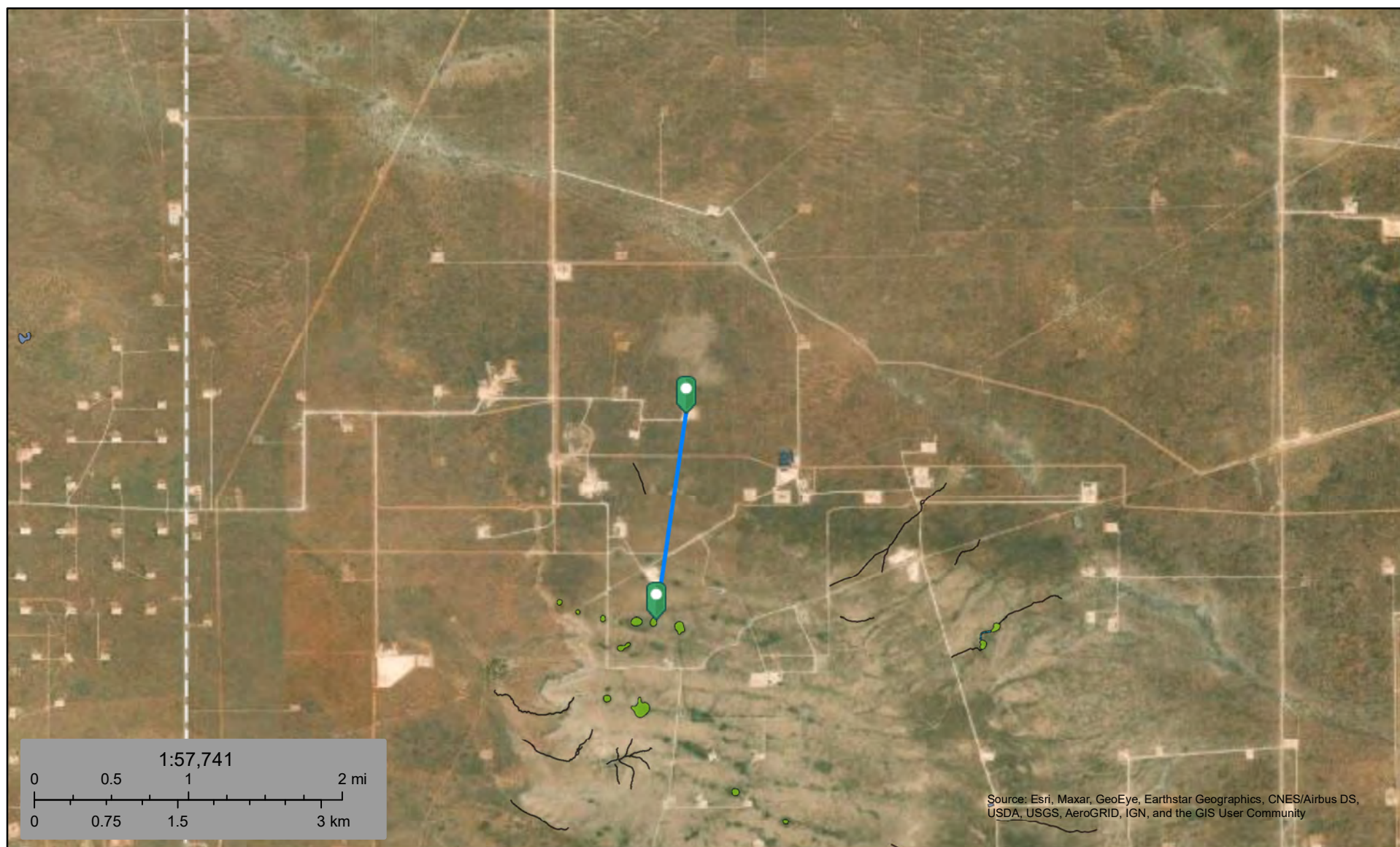
3/2/20 3:13 PM

Page 1 of 1

ACTIVE & INACTIVE POINTS OF DIVERSION



Bilbrey 33 Fed 3 - 6,020.8 ft



July 9, 2020

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.

Bilbrey 33 Fed Com 3H

Nearest Well: OSE Well CP01701POD1

Distance: 1.37 miles

Latest reading: 2018

Legend

Feature 1

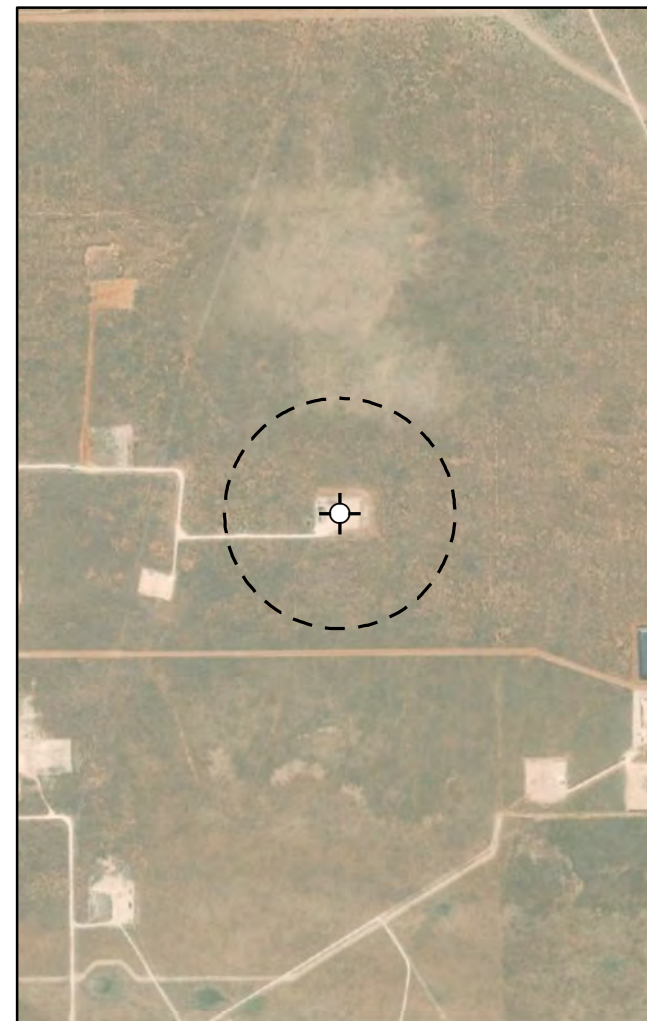
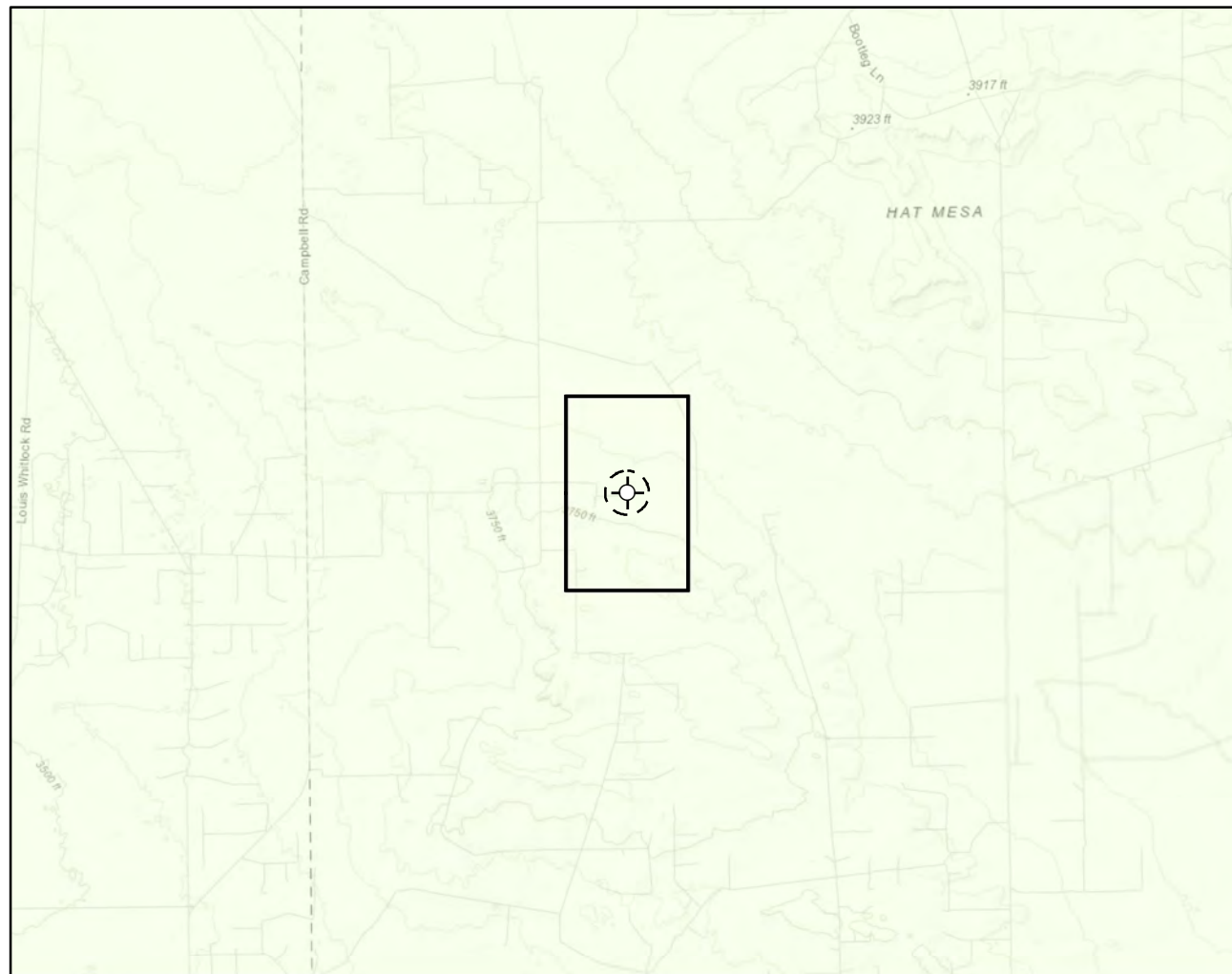
Bilbrey 33 Fed Com 3H

CP01701POD1

Google Earth

3000 ft

Document Path: G:\1-Projects\US PROJECTS\Devon Energy Corporation\20E-00141035 - Bilbrey 33 Fed Com 3H\Fig X Bilbrey 33 Fed Com 3H Karst.mxd



Karst Potential

- Critical
- High
- Medium
- Low



Site

Site Buffer (1000 ft.)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 600 1,200 ft.



Map Center:
Lat/Long: 32.435104, -103.675606

NAD 1983 UTM Zone 13N
Date: Jun 11/20



Karst Potential Map Bilbrey 33 Fed Com 3H

FIGURE:

X

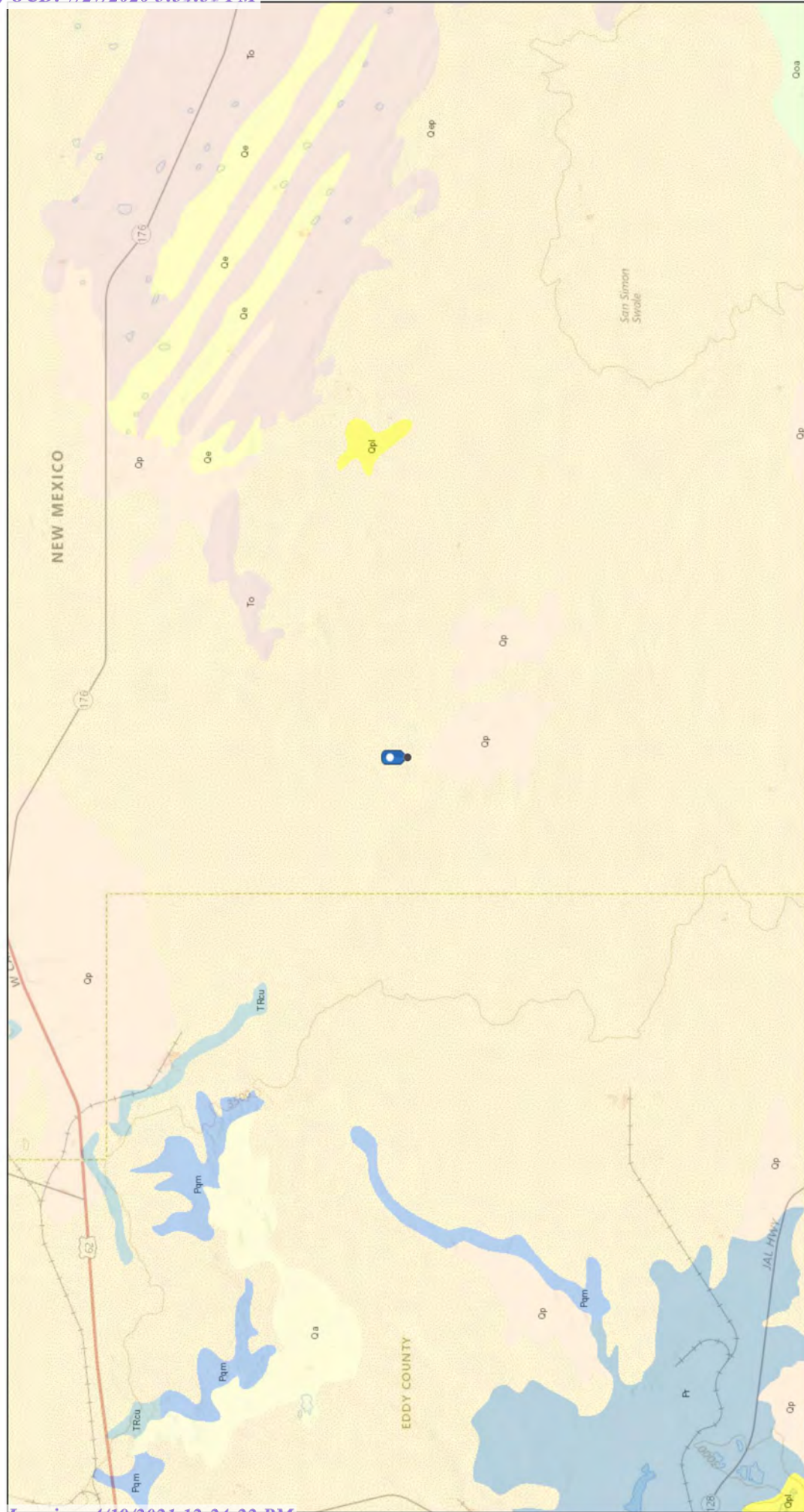


Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Inset Map - ESRI 2018; Overview Map - ESRI World Topographic

VERSATILITY. EXPERTISE.

Bilbrey 33 Federal Com 3H



6/10/2020, 12:16:27 PM

Faults

- Fault, Exposed
- Fault, Intermittent
- Fault, Concealed
- ~ Shere Zone

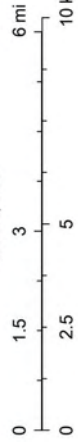
Dikes

- <all other values>
- Dike
- ++++ Dike intruding fault
- * Volcanic Vents

STATEMAP (1993 to Present) [Publications]

- Mapping in Complete
- Mapping in Progress

1:144,448



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

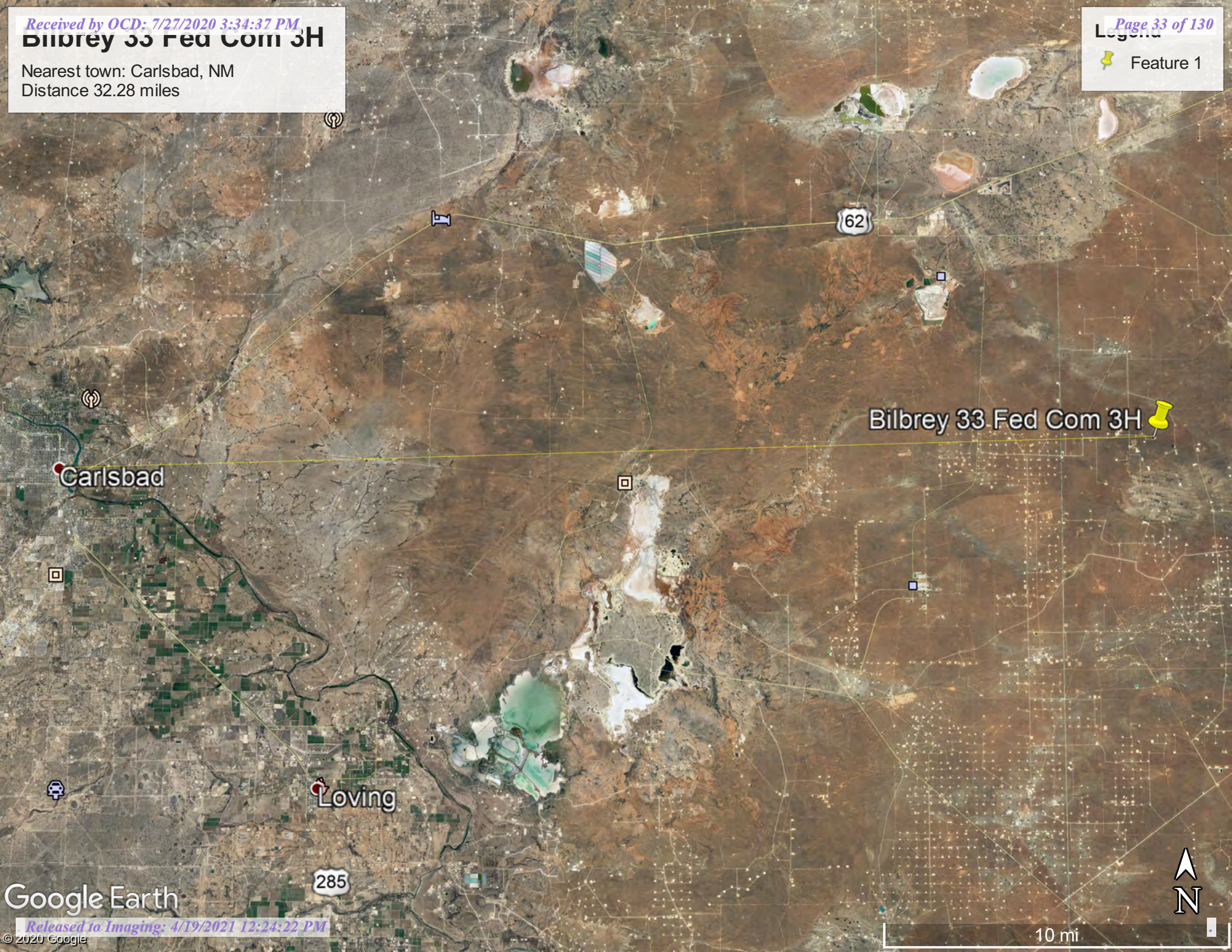
USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset, USGS Global Ecosystems, U.S. Census Bureau TIGER/Line

Web AppBuilder for ArcGIS

Bilbrey 33 Fed Com 3H

Nearest town: Carlsbad, NM
Distance 32.28 miles

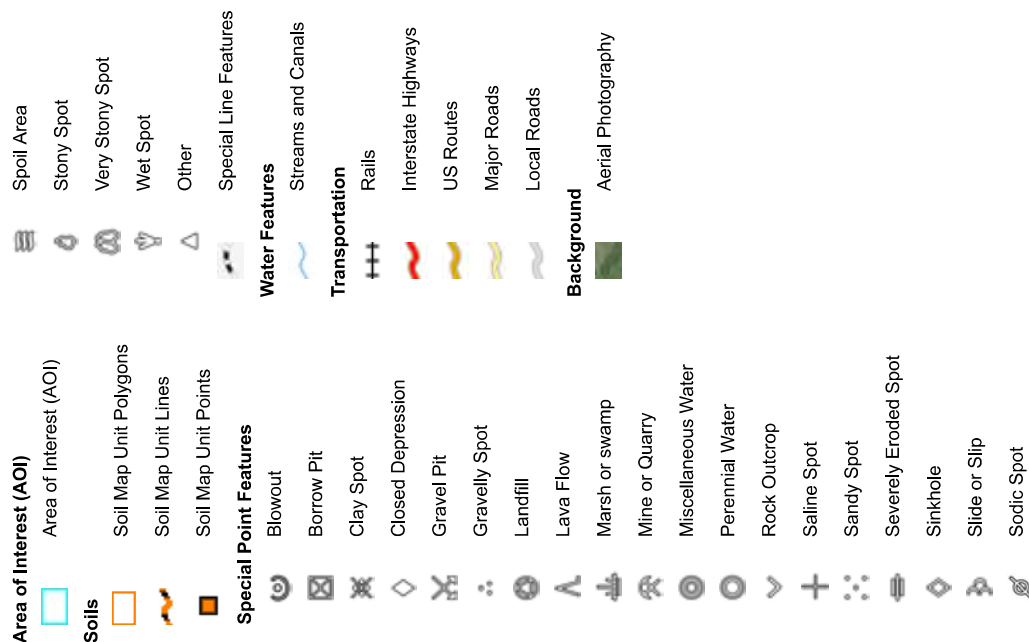
Legend
Feature 1



Soil Map—Lea County, New Mexico



MAP LEGEND



MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 16, Sep 15, 2019

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 17, 2017

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.

Soil Map—Lea County, New Mexico

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
PT	Pyote loamy fine sand	7.0	100.0%
Totals for Area of Interest		7.0	100.0%



Map Unit Description: Pyote loamy fine sand---Lea County, New Mexico

Lea County, New Mexico

PT—Pyote loamy fine sand

Map Unit Setting

National map unit symbol: dmqp

Elevation: 3,000 to 3,900 feet

Mean annual precipitation: 10 to 12 inches

Mean annual air temperature: 60 to 62 degrees F

Frost-free period: 190 to 200 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Pyote and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pyote

Setting

Landform: Plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 25 inches: loamy fine sand

Bt - 25 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High
(2.00 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Gypsum, maximum in profile: 1 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 2.0

Available water storage in profile: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): 6e

Land capability classification (nonirrigated): 7s

Map Unit Description: Pyote loamy fine sand---Lea County, New Mexico

Hydrologic Soil Group: A
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Minor Components

Maljamar

Percent of map unit: 8 percent
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Palomas

Percent of map unit: 7 percent
Ecological site: Loamy Sand (R042XC003NM)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 16, Sep 15, 2019

ATTACHMENT 4



May 13, 2020

Vertex Project #: 20E-00141-035

Devon Energy Corporation
6488 7 Rivers Highway
Artesia, New Mexico 88210

Attention: Amanda Davis

Re: Electromagnetic Survey at Bilbrey 33 Fed Com 3H

Ms. Davis,

Devon Energy Corporation (Devon) retained Vertex Professional Services Ltd. (Vertex) to conduct an electromagnetic (EM) survey at the Bilbrey 33 Fed Com 3H site (hereafter referred to as the "site"). Vertex personnel conducted the EM survey on May 8, 2020.

Method

The fixed-frequency EM method was used to map variations in ground conductivity to identify anomalously conductive soils and infer changes in the soil characteristics and composition. This method uses portable instrumentation consisting of a transmitter coil and a receiver coil. A primary magnetic field from the transmitter coil induces subsurface eddy currents, which in turn generate a secondary magnetic field that is intercepted by the receiver coil. The ratio of the primary and secondary magnetic fields is related to ground conductivity.

Ground conductivity is influenced by the following:

- Concentration of total dissolved solids (TDS) within the groundwater
- Type of substrate
- Soil grain size (fine-grained clay is more electrically conductive than coarse-grained material such as sand or gravel)
- Soil temperature (conductivity decreases as soil temperature approaches freezing)

Ground conductivity measurements were acquired using the Geonics EM31 Terrain Conductivity Meter. Data were collected continuously along transects spaced approximately 10 to 25 yards across the site. Data were logged using a Juniper Systems Archer2 Data Logger with an integrated global positioning system (GPS).

The effective depth of investigation for the EM31, as operated during this investigation, is approximately 5 m (16 ft). The conductivity values are not specific values from discrete depths; they are weighted averages of conductivity between the surface and the depth of exploration of the EM field, and are termed 'apparent conductivities'. The apparent conductivity values obtained are in units of millisiemens per metre (mS/m).

Devon Energy Corporation
Bilbrey 33 Fed Com 3H

EM Survey Results
May 2020

The results of the EM31 survey are presented as an apparent conductivity contour map on Figure 1.

Should you have any questions or concerns, please do not hesitate to contact the undersigned at 780-464-3295 or lpankratow@vertex.ca.

Sincerely,

Laurie Pankratow, B.Sc., P.Geoph.
GEOPHYSICIST
APEGA PERMIT TO PRACTICE #10647

Attachments

Attachment 1. Figures

vertex.ca

7223 Empire Central Drive, Houston, Texas 77040, USA | P 281.977.7886

Devon Energy Corporation
Bilbrey 33 Fed Com 3H

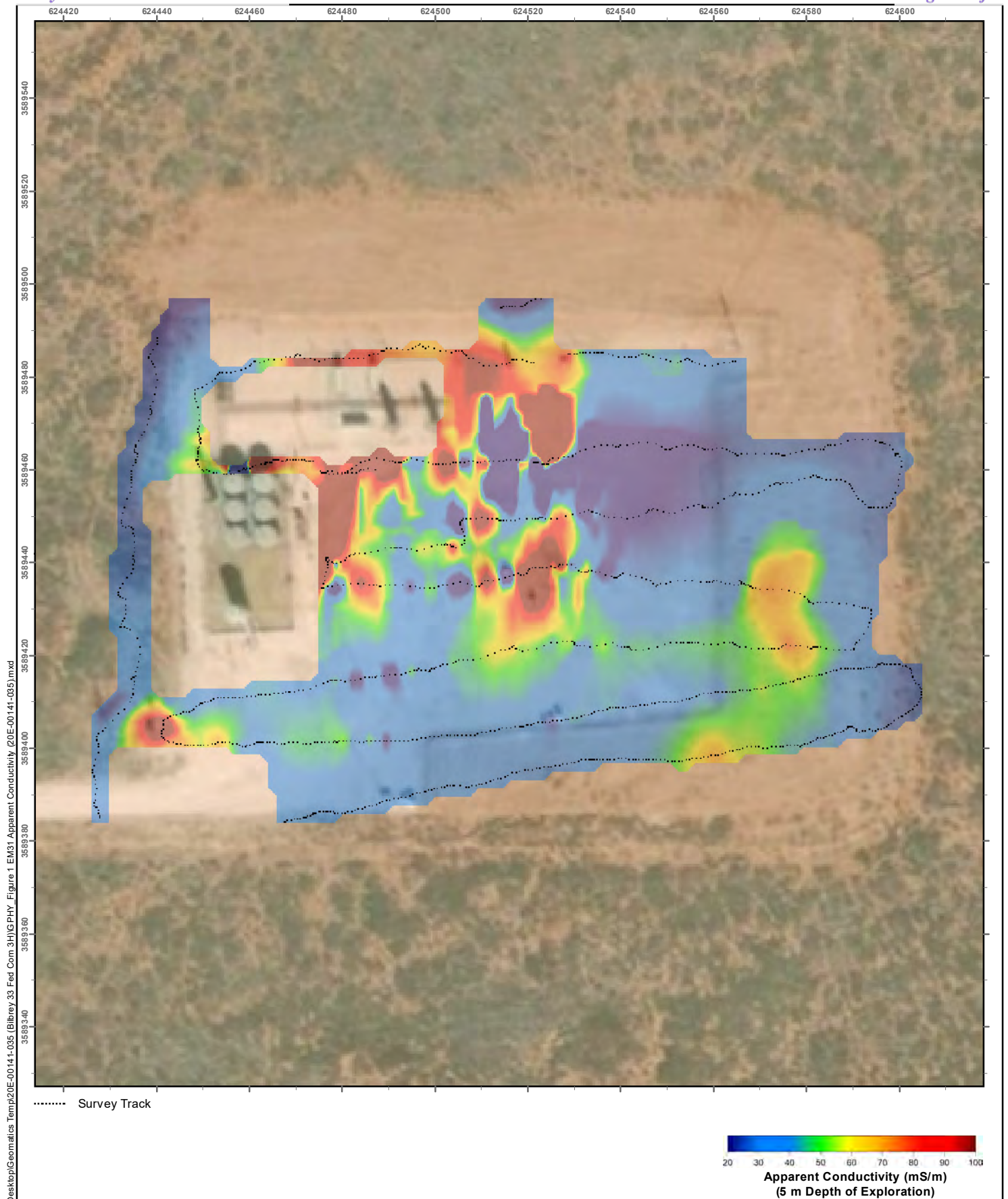
EM Survey Results
May 2020

Limitations

This report has been prepared for the sole benefit of Devon Energy Corporation (Devon). This document may not be used by any other person or entity without the express written consent of Vertex Resource Services Inc. (Vertex) and Devon. Any use of this report by a third party, or any reliance on decisions made based on it, or damages suffered as a result of the use of this report are the sole responsibility of the user.

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

ATTACHMENT 1



0 5 10 20 m
NAD 1983 UTM Zone 13N
Date: May 13/20



Site Schematic with
EM31 Apparent Conductivity Overlay
Bilbrey 33 Fed Com 3H

FIGURE:

1



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.

Notes: Background image provided by ESRI, 2016.

VERSATILITY. EXPERTISE.

ATTACHMENT 5



Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	5/8/2020
Site Location Name:	Bilbrey 33 Federal Com #3H	Report Run Date:	6/8/2020 4:32 PM
Project Owner:		File (Project) #:	
Project Manager:		API #:	30-025-41806
Client Contact Name:	Amanda Davis	Reference	
Client Contact Phone #:	(575) 748-0176		

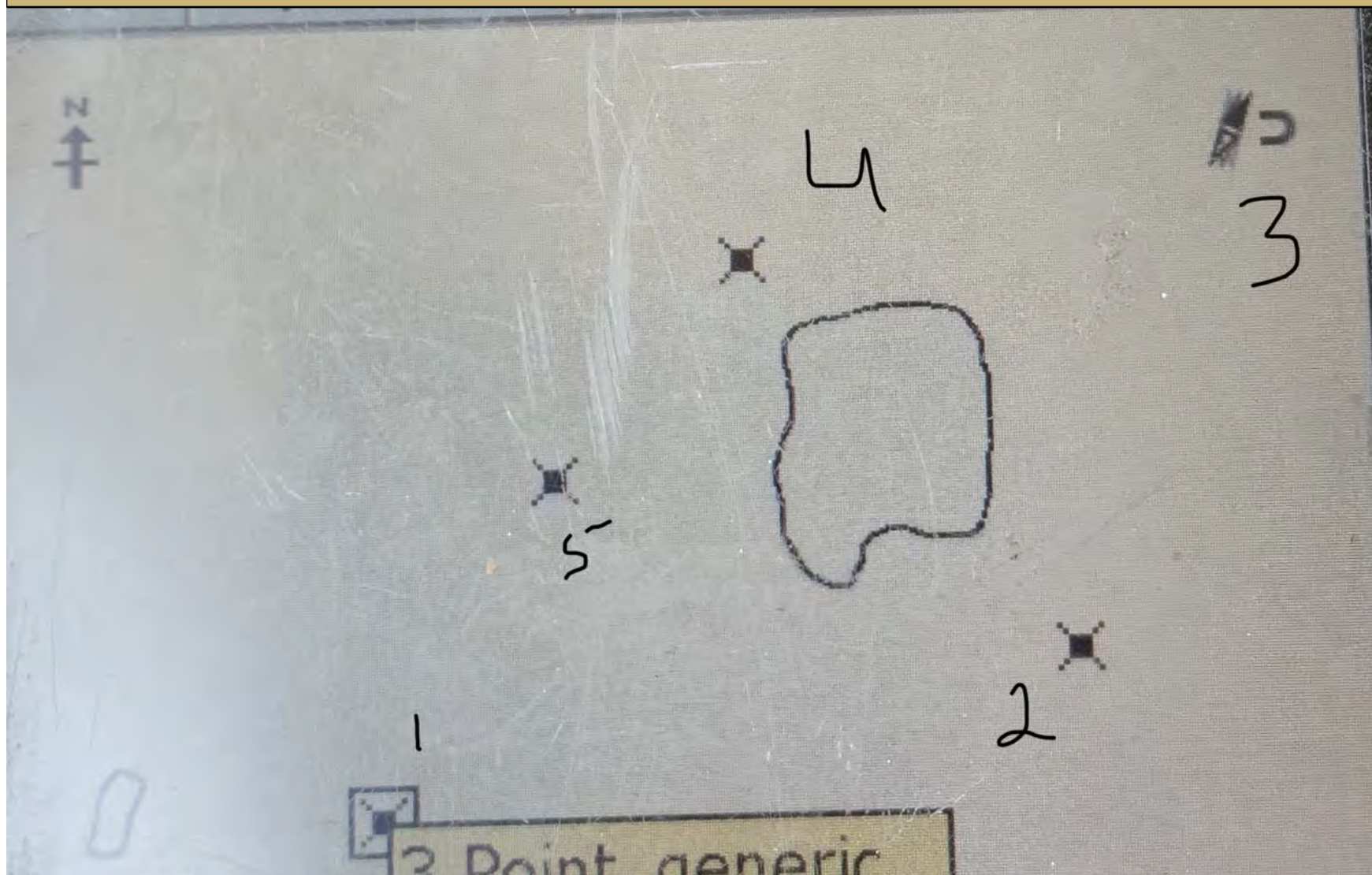
Summary of Times

Left Office	5/8/2020 11:33 AM
Arrived at Site	5/8/2020 11:32 AM
Departed Site	5/8/2020 5:31 PM
Returned to Office	5/8/2020 6:31 PM

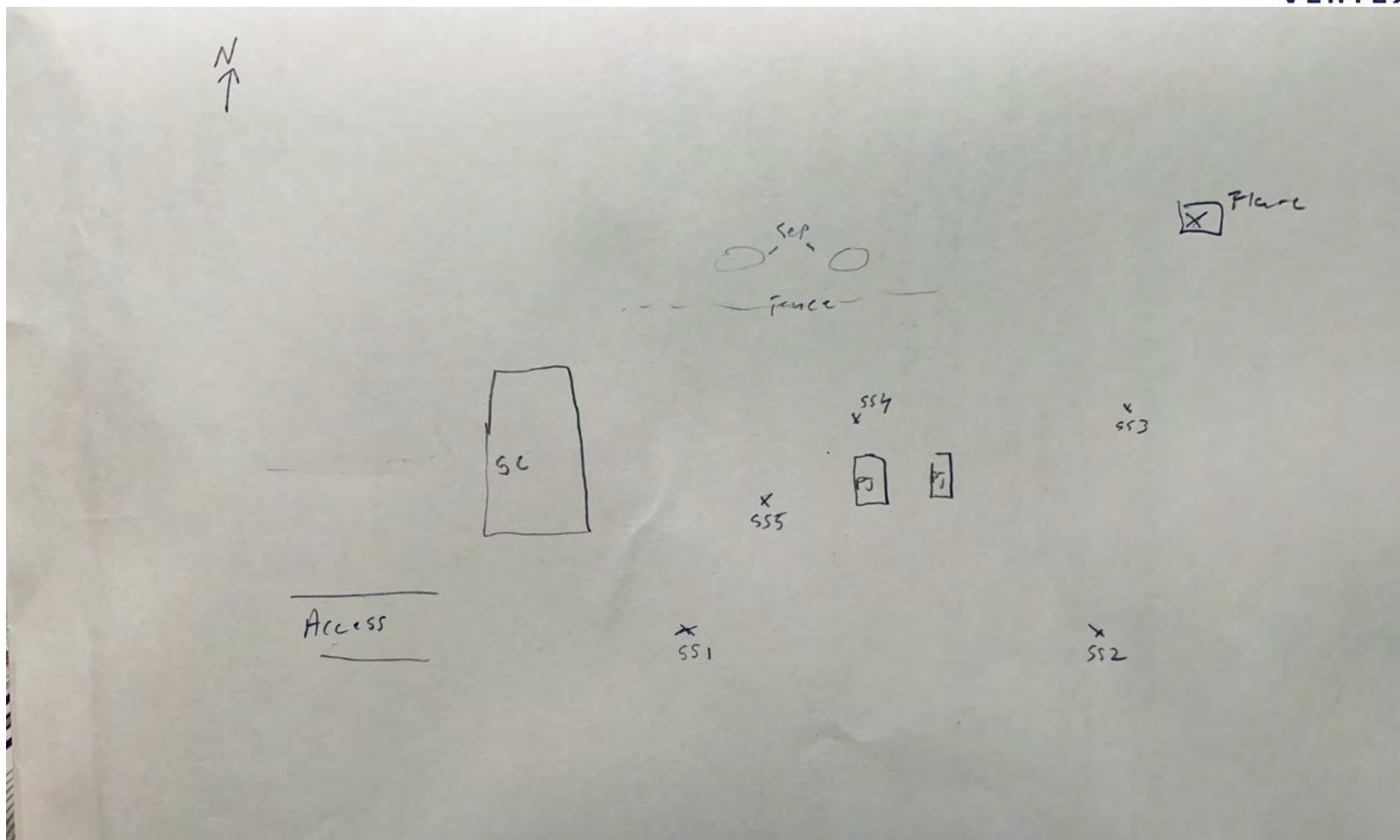
Daily Site Visit Report



Site Sketch



Daily Site Visit Report





Daily Site Visit Report

Summary of Daily Operations

10:17 Conduct EM 31 survey.

Delineate release by collecting field screens.

Next Steps & Recommendations

- 1 Submit EM 31 data to complete survey figure.
- 2 No areas identified to remediate at site.
- 3 Incident closure

Sampling

SS20-01

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	22 ppm	12 ppm	Low (30-600 ppm)	60 ppm			32.434798, - 103.67604	Yes

SS20-02

Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?
0 ft.	5 ppm	10 ppm	Low (30-600 ppm)	140 ppm			32.434938, - 103.67529	Yes



Daily Site Visit Report

SS20-03									
Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?	
0 ft.	6 ppm	26 ppm	Low (30-600 ppm)	90 ppm			32.434938, - 103.67529	Yes	
SS20-04									
Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?	
0 ft.	8 ppm	18 ppm	Low (30-600 ppm)	110 ppm			32.43529, - 103.67564	Yes	
SS20-05									
Depth ft	VOC PID	Petro Flag TPH ppm	Quantab Range ppm	Quantab Reading ppm	Lab Analysis	Picture	Trimble Location	Marked On Site Sketch?	
0 ft.	25 ppm	10 ppm	Low (30-600 ppm)	200 ppm			,	Yes	
0 ft.	25 ppm	10 ppm	Low (30-600 ppm)	200 ppm			32.43510, - 103.67586	Yes	

Daily Site Visit Report



Site Photos

Viewing Direction: East



Site Photo

Viewing Direction: East



Site Photo

Viewing Direction: South



Site Photo

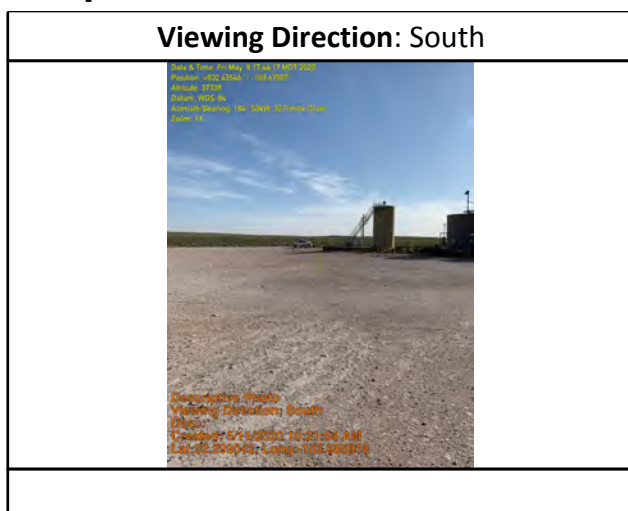
Viewing Direction: South



Site Photo



Daily Site Visit Report



Daily Site Visit Report



Depth Sample Photos

Sample Point ID: SS20-01



Depth: 0 ft.

Sample Point ID: SS20-02



Depth: 0 ft.

Sample Point ID: SS20-03



Depth: 0 ft.



Sample Point ID: SS20-04



Depth: 0 ft.



Daily Site Visit Report

Sample Point ID: SS20-05	Sample Point ID: SS20-05
<div><p>Date & Time: Fri May 8 17:43:19 MDT 2020 Position: +022 4264 / -103 47615 Altitude: 3720 Datum: WGS-84 Azimuth/Bearing: 180 5506 2311m/s (True) Zoom: 14</p><p>Depth Point Sample Photo: Depth: 0 ft. 6/13/2020 10:14:05 AM Lat: 33.410422, Long: -104.580079</p></div>	<div><p>Date & Time: Fri May 8 17:50:06 MDT 2020 Position: +022 4264 / -103 47615 Altitude: 3720 Datum: WGS-84 Azimuth/Bearing: 180 5506 2311m/s (True) Zoom: 14</p><p>Depth Point Sample Photo: Depth: 0 ft. 6/13/2020 10:10:36 AM Lat: 33.410422, Long: -104.580079</p></div>
Depth: 0 ft.	Depth: 0 ft.

Daily Site Visit Report



Daily Site Visit Signature

Inspector: Kevin Smith

Signature:


Signature



Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	6/11/2020
Site Location Name:	Bilbrey 33 Federal Com #3H	Report Run Date:	6/11/2020 8:21 PM
Project Owner:	Amanda Davis	File (Project) #:	20E-00141
Project Manager:	Natalie Gordon	API #:	30-025-41806
Client Contact Name:	Amanda Davis	Reference	01/01/2019 - 61bbbs Release
Client Contact Phone #:	(575) 748-0176		

Summary of Times

Left Office	6/11/2020 6:31 AM
Arrived at Site	6/11/2020 7:42 AM
Departed Site	6/11/2020 11:29 AM
Returned to Office	

Daily Site Visit Report



Site Sketch

Client: <u>Bellon</u>					Initial Spill Information - Record on First Visit		
Date: <u>6/11/20</u>					Spill Date: _____		
Site Name: <u>Bilberry 33 Fed 3</u>					Spill Volume: _____		
Site Location: <u>off pad</u>					Spill Cause: _____		
Project Owner: _____					Spill Product: _____		
Project Manager: _____					Recovered Spill Volume: _____		
Project #: _____					Recovery Method: _____		
Sampling							
Field Screening					Data Collection (Check for Yes)		
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	Quantab (High/Low) + or -	Lab Analysis	Picture	Trimble Coordinate
SS/TP/BH - Year - Number Ex. BH18-01	Ex. 2ft	Ex. 400 ppm	200 ppm	Ex. High +	Ex. Hydrocarbon Chloride		
9:10 BS 1	0			0.17/26.0			
9:15 BS 2	1			0.17/25.6			
9:20 BS 3				0.11/26.0			
9:25 BS 4				0.10/26.1			
9:30 BS 5				0.16/24.9			
9:35 BS 6				0.09/25.2			
9:40 BS 7				0.08/24.8			
9:45 BS 8				0.11/24.5			
9:50 BS 9				0.07/26.3			
9:55 BS 10				0.06/23.9			
10:00 BS 11				0.07/25.3			
10:05 BS 12				0.17/25.2			
10:10 BS 13				0.13/25.3			
10:15 BS 14				0.10/24.1			
10:20 BS 15				0.15/23.9			
10:25 BS 16				0.28/24.9			
10:30 BS 17				0.09/23.8			
10:35 BS 18				0.08/24.0			
10:40 BS 19				0.07/24.5			
10:45 BS 20				0.05/26.3			
10:50 BS 21				0.07/23.7			
10:55 BS 22				0.03/26.2			

Daily Site Visit Report



Client: <u>Devon</u>					Initial Spill Information - Reco	
Date: <u>6/11/20</u>					Spill Date:	
Site Name: <u>Bilbrey 33 Fed 3</u>					Spill Volume:	
Site Location: <u>off pad</u>					Spill Cause:	
Project Owner:					Spill Product:	
Project Manager:					Recovered Spill Volume:	
Project #:					Recovery Method:	

		Sampling			Data Collection (Che	
Sample ID	Depth (ft)	Field Screening		Quantab (High/Low) + or -	Lab Analysis	P
		VOC (PID)	Petroflag TPH (ppm)			
SS/TP/BH - Year - Number Ex. BH18-01	Ex. 2ft	Ex. 400 ppm	200 ppm	Ex. High +	Ex. Hydrocarbon Chloride	
7:45 WS 1	0			0.27/25.5		
7:50 WS 2	1			0.12/24.6		
7:55 WS 3				0.16/25.0		
8:00 WS 4				0.15/25.1		
8:05 WS 5				0.13/24.5		
8:10 WS 6				0.03/24.2		
8:15 WS 7				0.08/24.8		
8:20 WS 8				0.05/24.7		
8:25 WS 9				0.04/25.1		
8:30 WS 10				0.03/25.5		
8:35 WS 11				0.14/24.8		
8:40 WS 12				0.09/24.5		
8:45 WS 13	0			0.12/25.2		

Daily Site Visit Report



Summary of Daily Operations

- 7:43** Conduct liner inspection and collect confirmation samples for area where illegal dump occurred
- 7:57** Vegetation outside of pad area is lush for the area. No signs of produced water spill. No visual staining
- 8:31** Collecting a total of 35 samples. 22 base samples and 13 wall samples. Wall samples are to show edges of where em survey stopped on color difference
- 11:08** Pasture area complete. Review of em survey completed and being on site. There are power poles that follow the lease road coming into location and a set of electrical boxes right off the pad.
- 11:12** Liner integrity is fit to withstand a spill and has no tears rips or holes
- 11:15** Em survey shows red spots as “hot spots” around location. Review of the map and looking on site there are a lot of metal equipment that could give the false reading of a hot spot. Photos are taken around location of all equipment and where hot spots seem to have shown up
- 11:21** All hot spots from em survey correspond to being equipment on site

Next Steps & Recommendations

- 1** Send samples to lab for analysis
- 2** Begin closure report

Daily Site Visit Report



Site Photos

Viewing Direction: Northeast



Off pad area where confirmation sampling will take place

Viewing Direction: South



Southeast corner of off pad area

Viewing Direction: North



East side of pad area

Viewing Direction: West



Electrical boxes near entrance



Daily Site Visit Report

Viewing Direction: East



South side of pad where more electrical panels are located

Viewing Direction: North



West side of pad from entrance where electrical boxes are located

Viewing Direction: West



Liner on south side of containment

Viewing Direction: North



Liner on East side of containment



Daily Site Visit Report

Viewing Direction: North



Liner on west side of containment

Viewing Direction: East



Liner in between tanks within containment

Viewing Direction: East



Liner on north side of containment

Viewing Direction: South



Liner on East side of containment



Daily Site Visit Report

Viewing Direction: West



Electrical panel on East side of containment that showed up as hot spot

Viewing Direction: West



Lact unit on east side of containment that showed up as hot spot

Viewing Direction: East



Pump jacks and equipment that showed up as hot spot

Viewing Direction: North



Separators and piping that appeared as hot spot



Daily Site Visit Report

Viewing Direction: West



Flow lines leading to flare on north side of pad

Viewing Direction: West



Flow lines behind equipment on north side of pad

Daily Site Visit Report



Daily Site Visit Signature

Inspector: Monica Peppin

Signature:

ATTACHMENT 6

Natalie Gordon

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Monday, June 8, 2020 5:35 PM
To: Natalie Gordon
Subject: Fwd: NCH1903651025: Bilbrey 33 Federal Com #3H 48-hr notification of confirmation sampling

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

From: **Dhugal Hanton** <vertexresourcegroupusa@gmail.com>
Date: Mon, Jun 8, 2020 at 5:34 PM
Subject: Re: NCH1903651025: Bilbrey 33 Federal Com #3H 48-hr notification of confirmation sampling
To: EMNRD-OCD-District1spills <emnrd-ocd-district1spills@state.nm.us>, Bratcher, Mike, EMNRD <Mike.Bratcher@state.nm.us>, Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>, Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>, CFO_Spill, BLM_NM <blm_nm_cfo_spill@blm.gov>, Amos, James A <Jamos@blm.gov>, Kelsey <KWade@blm.gov>, <ramona.marcus@state.nm.us>
Cc: <wesley.mathews@dvn.com>, <amanda.davis@dvn.com>, <tom.bynum@dvn.com>, <Lupe.Carrasco@dvn.com>

All,

In addition to the confirmatory sampling scheduled at Bilbrey 33 Fed Com #3H for Thursday, June 11, 2020, Vertex will also be conducting a liner inspection during that same visit for a separate release that occurred on May 22, 2018. The incident tracking number assigned to this second release is NCH1815829199.

If there are any questions, please let me know.

Thank you,
Natalie

On Mon, Jun 8, 2020 at 5:28 PM Dhugal Hanton <vertexresourcegroupusa@gmail.com> wrote:
All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled confirmatory sampling to be conducted at Bilbrey 33 Fed Com #3H for the release that occurred on January 1, 2019, incident tracking # NCH1903651025.

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

On Thursday, June 11, 2020 at approximately 8:00 a.m., Monica Peppin of Vertex will be onsite to conduct final confirmatory sampling. She can be reached at 575-361-9880. If you need directions to the site, please do not hesitate to contact her.

If you have any questions or concerns regarding this notification, please give me a call at 505-506-0040.

Thank you,
Natalie

Natalie Gordon
Project Manager

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

P 575.725.5001 ext 709
C 505.506.0040

www.vertex.ca

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Natalie Gordon

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Wednesday, July 8, 2020 10:37 AM
To: Natalie Gordon
Subject: Fwd: NCH1903651025: Bilbrey 33 Federal Com #3H 48-hr Notification of Confirmatory Sampling

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

From: **Dhugal Hanton** <vertexresourcegroupusa@gmail.com>
Date: Wed, Jul 8, 2020 at 10:37 AM
Subject: NCH1903651025: Bilbrey 33 Federal Com #3H 48-hr Notification of Confirmatory Sampling
To: Bratcher, Mike, EMNRD <Mike.Bratcher@state.nm.us>, EMNRD-OCD-District1spills <emnrd-ocd-district1spills@state.nm.us>, Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>, Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>, CFO_Spill, BLM_NM <blm_nm_cfo_spill@blm.gov>, Amos, James A <Jamos@blm.gov>, Kelsey <KWade@blm.gov>, <ramona.marcus@state.nm.us>
Cc: <wesley.mathews@dvn.com>, <Lupe.Carrasco@dvn.com>, <amanda.davis@dvn.com>, <tom.bynum@dvn.com>

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled additional remediation and confirmatory sampling to be conducted at Bilbrey 33 Fed Com #3H for the release that occurred on January 1, 2019, incident tracking # NCH1903651025.

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

On Friday July 10, 2020 at approximately 3:00 p.m., Kevin Smith of Vertex will be onsite to conduct final confirmatory sampling following some minor remediation to address a single failed confirmatory sample from a prior visit. He can be reached at 575-988-0871. If you need directions to the site, please do not hesitate to contact him.

If you have any questions or concerns regarding this notification, please give me a call at 505-506-0040.

Thank you,
Natalie

Natalie Gordon
Project Manager

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

P 575.725.5001 ext 709
C 505.506.0040

www.vertex.ca

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information. If you are not the intended recipient, any disclosure, copying, use, or distribution of the information included in this message and any attachment is prohibited. If you have received this communication in error, please notify us by reply email and immediately and permanently delete this message and any attachments. Thank you.

ATTACHMENT 7

Client Name: Devon Energy Production Company
 Site Name: Bilbrey 33 Federal Com 3H
 NM OCD Incident Tracking Number: NCH1903651025
 Project #: 20E-00141-035
 Lab Reports: 2006732 and 2007626

Table 2. Confirmatory Sampling Laboratory Data										
Sample Description			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile		Extractable					
			Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
BS20-01	0	June 11, 2020	<0.025	<0.225	<5.0	<9.8	<49	<14.8	<63.8	100
BS20-02	0	June 11, 2020	<0.025	<0.224	<5.0	17	75	17	92	98
BS20-03	0	June 11, 2020	<0.025	<0.024	<5.0	<9.7	51	<14.7	51	<61
BS20-04	0	June 11, 2020	<0.025	<0.222	<4.9	<9.7	<48	<14.6	<62.6	<60
BS20-05	0	June 11, 2020	<0.025	<0.225	<5.0	<9.9	55	<14.9	55	67
BS20-06	0	June 11, 2020	<0.025	<0.222	<4.9	<9.6	<48	<14.5	<62.5	<59
BS20-07	0	June 11, 2020	<0.024	<0.217	<4.8	<9.7	<48	<14.5	<62.5	<61
BS20-08	0	June 11, 2020	<0.024	<0.219	<4.9	<9.5	72	<14.4	72	<60
BS20-09	0	June 11, 2020	<0.024	<0.219	<4.9	<9.3	<46	<14.2	<60.2	<60
BS20-10	0	June 11, 2020	<0.025	<0.225	<5.0	<9.5	<48	<14.5	<62.5	<60
BS20-11	0	June 11, 2020	<0.024	<0.220	<4.9	<8.8	<44	<13.7	<57.7	<61
BS20-12	0	June 11, 2020	<0.024	<0.219	<4.9	<10.0	<50	<14.9	<64.9	150
BS20-13	0	June 11, 2020	<0.025	<0.221	<4.9	<9.5	<47	<14.4	<61.4	110
BS20-14	0	June 11, 2020	<0.024	<0.220	<4.9	<9.7	<48	<14.6	<62.6	<61
BS20-15	0	June 11, 2020	<0.025	<0.224	<5.0	14	82	14	96	120
BS20-16	0	June 11, 2020	<0.025	<0.224	<5.0	17	63	17	80	220
BS20-17	0	June 11, 2020	<0.025	<0.222	<4.9	<9.5	<47	<14.4	<61.4	<60
BS20-18	0	June 11, 2020	<0.024	<0.220	<4.9	25	96	25	121	<60
BS20-18	0.5	July 10, 2020	<0.024	<0.212	<4.7	<9.7	<49	<14.4	<63.4	<60
BS20-19	0	June 11, 2020	<0.025	<0.225	<5.0	<9.9	<50	<14.9	<64.9	<60
BS20-20	0	June 11, 2020	<0.024	<0.215	<4.8	<9.9	<49	<14.7	<63.7	<59
BS20-21	0	June 11, 2020	<0.023	<0.210	<4.7	<10.0	<50	<14.7	<64.7	<60
BS20-22	0	June 11, 2020	<0.023	<0.211	<4.7	<10.0	<50	<14.7	<64.7	<60
WS20-01	0	June 11, 2020	<0.024	<0.216	<4.8	<9.8	<49	<14.6	<63.6	150
WS20-02	0	June 11, 2020	<0.025	<0.221	<4.9	<9.6	<48	<14.5	<62.5	64
WS20-03	0	June 11, 2020	<0.024	<0.213	<4.7	<9.8	<49	<14.5	<63.5	97
WS20-04	0	June 11, 2020	<0.024	<0.212	<4.7	<9.5	<48	<14.2	<62.2	81
WS20-05	0	June 11, 2020	<0.023	<0.211	<4.7	19	57	19	76	<60
WS20-06	0	June 11, 2020	<0.024	<0.216	<4.8	<9.8	<49	<14.6	<63.6	<61
WS20-07	0	June 11, 2020	<0.023	<0.207	<4.6	<9.7	<49	<14.3	<63.3	<61
WS20-08	0	June 11, 2020	<0.023	<0.211	<4.7	<9.0	<45	<13.7	<58.7	<60
WS20-09	0	June 11, 2020	<0.023	<0.211	<4.7	<9.3	<46	<14.0	<60.0	<60
WS20-10	0	June 11, 2020	<0.025	<0.225	<5.0	<9.6	<48	<14.6	<62.6	<60
WS20-11	0	June 11, 2020	<0.023	<0.207	<4.6	<9.9	<50	<14.5	<64.5	<60
WS20-12	0	June 11, 2020	<0.024	<0.217	<4.8	14	51	14	65	<60
WS20-13	0	June 11, 2020	<0.023	<0.210	<4.7	<9.9	<50	<14.6	<64.6	62

"-" - Not applicable/assessed

Bold and shaded indicates exceedance outside of applied action level

ATTACHMENT 8



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

June 22, 2020

Natalie Gordon

Devon Energy

6488 Seven Rivers Highway

Artesia, NM 88210

TEL: (505) 350-1336

FAX:

RE: Bilbrey 33 Fed Com 3H

OrderNo.: 2006732

Dear Natalie Gordon:

Hall Environmental Analysis Laboratory received 35 sample(s) on 6/13/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-01 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 9:10:00 AM

Lab ID: 2006732-001

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/15/2020 9:34:53 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/15/2020 9:34:53 AM
Surr: DNOP	117	55.1-146		%Rec	1	6/15/2020 9:34:53 AM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	100	60		mg/Kg	20	6/19/2020 12:30:15 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	6/15/2020 12:55:46 PM
Toluene	ND	0.050		mg/Kg	1	6/15/2020 12:55:46 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/15/2020 12:55:46 PM
Xylenes, Total	ND	0.10		mg/Kg	1	6/15/2020 12:55:46 PM
Surr: 1,2-Dichloroethane-d4	94.3	70-130		%Rec	1	6/15/2020 12:55:46 PM
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	6/15/2020 12:55:46 PM
Surr: Dibromofluoromethane	94.2	70-130		%Rec	1	6/15/2020 12:55:46 PM
Surr: Toluene-d8	104	70-130		%Rec	1	6/15/2020 12:55:46 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/15/2020 12:55:46 PM
Surr: BFB	104	70-130		%Rec	1	6/15/2020 12:55:46 PM

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

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

Page 1 of 43

Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-02 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 9:15:00 AM

Lab ID: 2006732-002

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	17	10		mg/Kg	1	6/16/2020 1:45:02 PM
Motor Oil Range Organics (MRO)	75	50		mg/Kg	1	6/16/2020 1:45:02 PM
Surr: DNOP	116	55.1-146		%Rec	1	6/16/2020 1:45:02 PM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	98	60		mg/Kg	20	6/19/2020 1:07:17 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	6/15/2020 2:25:33 PM
Toluene	ND	0.050		mg/Kg	1	6/15/2020 2:25:33 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/15/2020 2:25:33 PM
Xylenes, Total	ND	0.099		mg/Kg	1	6/15/2020 2:25:33 PM
Surr: 1,2-Dichloroethane-d4	99.8	70-130		%Rec	1	6/15/2020 2:25:33 PM
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	6/15/2020 2:25:33 PM
Surr: Dibromofluoromethane	102	70-130		%Rec	1	6/15/2020 2:25:33 PM
Surr: Toluene-d8	98.5	70-130		%Rec	1	6/15/2020 2:25:33 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/15/2020 2:25:33 PM
Surr: BFB	105	70-130		%Rec	1	6/15/2020 2:25:33 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	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-03 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 9:20:00 AM

Lab ID: 2006732-003

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/15/2020 9:54:34 AM
Motor Oil Range Organics (MRO)	51	49		mg/Kg	1	6/15/2020 9:54:34 AM
Surr: DNOP	97.5	55.1-146		%Rec	1	6/15/2020 9:54:34 AM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	ND	61		mg/Kg	20	6/19/2020 1:19:38 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	6/15/2020 3:56:00 PM
Toluene	ND	0.050		mg/Kg	1	6/15/2020 3:56:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/15/2020 3:56:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	6/15/2020 3:56:00 PM
Surr: 1,2-Dichloroethane-d4	94.2	70-130		%Rec	1	6/15/2020 3:56:00 PM
Surr: 4-Bromofluorobenzene	96.7	70-130		%Rec	1	6/15/2020 3:56:00 PM
Surr: Dibromofluoromethane	90.2	70-130		%Rec	1	6/15/2020 3:56:00 PM
Surr: Toluene-d8	103	70-130		%Rec	1	6/15/2020 3:56:00 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/15/2020 3:56:00 PM
Surr: BFB	102	70-130		%Rec	1	6/15/2020 3:56:00 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-04 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 9:25:00 AM

Lab ID: 2006732-004

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/15/2020 10:21:34 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/15/2020 10:21:34 AM
Surr: DNOP	103	55.1-146		%Rec	1	6/15/2020 10:21:34 AM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	ND	60		mg/Kg	20	6/19/2020 1:31:59 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	6/15/2020 4:26:08 PM
Toluene	ND	0.049		mg/Kg	1	6/15/2020 4:26:08 PM
Ethylbenzene	ND	0.049		mg/Kg	1	6/15/2020 4:26:08 PM
Xylenes, Total	ND	0.099		mg/Kg	1	6/15/2020 4:26:08 PM
Surr: 1,2-Dichloroethane-d4	97.3	70-130		%Rec	1	6/15/2020 4:26:08 PM
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	6/15/2020 4:26:08 PM
Surr: Dibromofluoromethane	95.6	70-130		%Rec	1	6/15/2020 4:26:08 PM
Surr: Toluene-d8	97.4	70-130		%Rec	1	6/15/2020 4:26:08 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/15/2020 4:26:08 PM
Surr: BFB	102	70-130		%Rec	1	6/15/2020 4:26:08 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-05 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 9:30:00 AM

Lab ID: 2006732-005

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/15/2020 10:31:21 AM
Motor Oil Range Organics (MRO)	55	49		mg/Kg	1	6/15/2020 10:31:21 AM
Surr: DNOP	95.5	55.1-146		%Rec	1	6/15/2020 10:31:21 AM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	67	60		mg/Kg	20	6/19/2020 1:44:20 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	6/15/2020 4:56:16 PM
Toluene	ND	0.050		mg/Kg	1	6/15/2020 4:56:16 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/15/2020 4:56:16 PM
Xylenes, Total	ND	0.10		mg/Kg	1	6/15/2020 4:56:16 PM
Surr: 1,2-Dichloroethane-d4	98.7	70-130		%Rec	1	6/15/2020 4:56:16 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	6/15/2020 4:56:16 PM
Surr: Dibromofluoromethane	97.7	70-130		%Rec	1	6/15/2020 4:56:16 PM
Surr: Toluene-d8	102	70-130		%Rec	1	6/15/2020 4:56:16 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/15/2020 4:56:16 PM
Surr: BFB	105	70-130		%Rec	1	6/15/2020 4:56:16 PM

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

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

Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-06 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 9:35:00 AM

Lab ID: 2006732-006

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/15/2020 10:41:11 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/15/2020 10:41:11 AM
Surr: DNOP	115	55.1-146		%Rec	1	6/15/2020 10:41:11 AM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	ND	59		mg/Kg	20	6/19/2020 1:56:41 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	6/15/2020 5:26:20 PM
Toluene	ND	0.049		mg/Kg	1	6/15/2020 5:26:20 PM
Ethylbenzene	ND	0.049		mg/Kg	1	6/15/2020 5:26:20 PM
Xylenes, Total	ND	0.099		mg/Kg	1	6/15/2020 5:26:20 PM
Surr: 1,2-Dichloroethane-d4	99.4	70-130		%Rec	1	6/15/2020 5:26:20 PM
Surr: 4-Bromofluorobenzene	94.3	70-130		%Rec	1	6/15/2020 5:26:20 PM
Surr: Dibromofluoromethane	96.5	70-130		%Rec	1	6/15/2020 5:26:20 PM
Surr: Toluene-d8	98.7	70-130		%Rec	1	6/15/2020 5:26:20 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/15/2020 5:26:20 PM
Surr: BFB	103	70-130		%Rec	1	6/15/2020 5:26:20 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-07 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 9:40:00 AM

Lab ID: 2006732-007

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/15/2020 11:12:19 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/15/2020 11:12:19 AM
Surr: DNOP	116	55.1-146		%Rec	1	6/15/2020 11:12:19 AM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	ND	61		mg/Kg	20	6/19/2020 2:09:02 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	6/15/2020 5:56:18 PM
Toluene	ND	0.048		mg/Kg	1	6/15/2020 5:56:18 PM
Ethylbenzene	ND	0.048		mg/Kg	1	6/15/2020 5:56:18 PM
Xylenes, Total	ND	0.097		mg/Kg	1	6/15/2020 5:56:18 PM
Surr: 1,2-Dichloroethane-d4	96.9	70-130		%Rec	1	6/15/2020 5:56:18 PM
Surr: 4-Bromofluorobenzene	97.3	70-130		%Rec	1	6/15/2020 5:56:18 PM
Surr: Dibromofluoromethane	93.3	70-130		%Rec	1	6/15/2020 5:56:18 PM
Surr: Toluene-d8	97.5	70-130		%Rec	1	6/15/2020 5:56:18 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/15/2020 5:56:18 PM
Surr: BFB	105	70-130		%Rec	1	6/15/2020 5:56:18 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	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-08 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 9:45:00 AM

Lab ID: 2006732-008

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/15/2020 11:22:07 AM
Motor Oil Range Organics (MRO)	72	47		mg/Kg	1	6/15/2020 11:22:07 AM
Surr: DNOP	131	55.1-146		%Rec	1	6/15/2020 11:22:07 AM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	ND	60		mg/Kg	20	6/19/2020 2:46:04 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	6/15/2020 6:26:05 PM
Toluene	ND	0.049		mg/Kg	1	6/15/2020 6:26:05 PM
Ethylbenzene	ND	0.049		mg/Kg	1	6/15/2020 6:26:05 PM
Xylenes, Total	ND	0.097		mg/Kg	1	6/15/2020 6:26:05 PM
Surr: 1,2-Dichloroethane-d4	96.0	70-130		%Rec	1	6/15/2020 6:26:05 PM
Surr: 4-Bromofluorobenzene	95.8	70-130		%Rec	1	6/15/2020 6:26:05 PM
Surr: Dibromofluoromethane	96.3	70-130		%Rec	1	6/15/2020 6:26:05 PM
Surr: Toluene-d8	99.4	70-130		%Rec	1	6/15/2020 6:26:05 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/15/2020 6:26:05 PM
Surr: BFB	103	70-130		%Rec	1	6/15/2020 6:26:05 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	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-09 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 9:50:00 AM

Lab ID: 2006732-009

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	6/15/2020 11:32:01 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/15/2020 11:32:01 AM
Surr: DNOP	107	55.1-146		%Rec	1	6/15/2020 11:32:01 AM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	ND	60		mg/Kg	20	6/19/2020 2:58:25 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	6/15/2020 6:55:47 PM
Toluene	ND	0.049		mg/Kg	1	6/15/2020 6:55:47 PM
Ethylbenzene	ND	0.049		mg/Kg	1	6/15/2020 6:55:47 PM
Xylenes, Total	ND	0.097		mg/Kg	1	6/15/2020 6:55:47 PM
Surr: 1,2-Dichloroethane-d4	98.0	70-130		%Rec	1	6/15/2020 6:55:47 PM
Surr: 4-Bromofluorobenzene	96.7	70-130		%Rec	1	6/15/2020 6:55:47 PM
Surr: Dibromofluoromethane	100	70-130		%Rec	1	6/15/2020 6:55:47 PM
Surr: Toluene-d8	101	70-130		%Rec	1	6/15/2020 6:55:47 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/15/2020 6:55:47 PM
Surr: BFB	101	70-130		%Rec	1	6/15/2020 6:55:47 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-10 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 9:55:00 AM

Lab ID: 2006732-010

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/15/2020 11:41:57 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/15/2020 11:41:57 AM
Surr: DNOP	142	55.1-146		%Rec	1	6/15/2020 11:41:57 AM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	ND	60		mg/Kg	20	6/19/2020 3:10:45 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	6/15/2020 7:25:21 PM
Toluene	ND	0.050		mg/Kg	1	6/15/2020 7:25:21 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/15/2020 7:25:21 PM
Xylenes, Total	ND	0.10		mg/Kg	1	6/15/2020 7:25:21 PM
Surr: 1,2-Dichloroethane-d4	97.1	70-130		%Rec	1	6/15/2020 7:25:21 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	6/15/2020 7:25:21 PM
Surr: Dibromofluoromethane	97.2	70-130		%Rec	1	6/15/2020 7:25:21 PM
Surr: Toluene-d8	100	70-130		%Rec	1	6/15/2020 7:25:21 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/15/2020 7:25:21 PM
Surr: BFB	108	70-130		%Rec	1	6/15/2020 7:25:21 PM

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

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

Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-11 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 10:00:00 AM

Lab ID: 2006732-011

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	6/15/2020 11:51:56 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	6/15/2020 11:51:56 AM
Surr: DNOP	119	55.1-146		%Rec	1	6/15/2020 11:51:56 AM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	ND	61		mg/Kg	20	6/19/2020 3:23:05 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	6/15/2020 7:54:50 PM
Toluene	ND	0.049		mg/Kg	1	6/15/2020 7:54:50 PM
Ethylbenzene	ND	0.049		mg/Kg	1	6/15/2020 7:54:50 PM
Xylenes, Total	ND	0.098		mg/Kg	1	6/15/2020 7:54:50 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	6/15/2020 7:54:50 PM
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	1	6/15/2020 7:54:50 PM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	6/15/2020 7:54:50 PM
Surr: Toluene-d8	96.2	70-130		%Rec	1	6/15/2020 7:54:50 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/15/2020 7:54:50 PM
Surr: BFB	100	70-130		%Rec	1	6/15/2020 7:54:50 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	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-12 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 10:05:00 AM

Lab ID: 2006732-012

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/15/2020 12:01:56 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/15/2020 12:01:56 PM
Surr: DNOP	114	55.1-146		%Rec	1	6/15/2020 12:01:56 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	150	60		mg/Kg	20	6/19/2020 2:16:17 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	6/15/2020 8:24:12 PM
Toluene	ND	0.049		mg/Kg	1	6/15/2020 8:24:12 PM
Ethylbenzene	ND	0.049		mg/Kg	1	6/15/2020 8:24:12 PM
Xylenes, Total	ND	0.097		mg/Kg	1	6/15/2020 8:24:12 PM
Surr: 1,2-Dichloroethane-d4	95.4	70-130		%Rec	1	6/15/2020 8:24:12 PM
Surr: 4-Bromofluorobenzene	99.4	70-130		%Rec	1	6/15/2020 8:24:12 PM
Surr: Dibromofluoromethane	99.2	70-130		%Rec	1	6/15/2020 8:24:12 PM
Surr: Toluene-d8	103	70-130		%Rec	1	6/15/2020 8:24:12 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/15/2020 8:24:12 PM
Surr: BFB	103	70-130		%Rec	1	6/15/2020 8:24:12 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-13 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 10:10:00 AM

Lab ID: 2006732-013

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/15/2020 12:11:57 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/15/2020 12:11:57 PM
Surr: DNOP	129	55.1-146		%Rec	1	6/15/2020 12:11:57 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	110	61		mg/Kg	20	6/19/2020 2:53:30 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	6/15/2020 8:53:38 PM
Toluene	ND	0.049		mg/Kg	1	6/15/2020 8:53:38 PM
Ethylbenzene	ND	0.049		mg/Kg	1	6/15/2020 8:53:38 PM
Xylenes, Total	ND	0.098		mg/Kg	1	6/15/2020 8:53:38 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	6/15/2020 8:53:38 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	6/15/2020 8:53:38 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	6/15/2020 8:53:38 PM
Surr: Toluene-d8	102	70-130		%Rec	1	6/15/2020 8:53:38 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/15/2020 8:53:38 PM
Surr: BFB	104	70-130		%Rec	1	6/15/2020 8:53:38 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-14 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 10:15:00 AM

Lab ID: 2006732-014

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/15/2020 12:22:02 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/15/2020 12:22:02 PM
Surr: DNOP	143	55.1-146		%Rec	1	6/15/2020 12:22:02 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	61		mg/Kg	20	6/19/2020 3:55:32 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	6/15/2020 9:23:04 PM
Toluene	ND	0.049		mg/Kg	1	6/15/2020 9:23:04 PM
Ethylbenzene	ND	0.049		mg/Kg	1	6/15/2020 9:23:04 PM
Xylenes, Total	ND	0.098		mg/Kg	1	6/15/2020 9:23:04 PM
Surr: 1,2-Dichloroethane-d4	94.5	70-130		%Rec	1	6/15/2020 9:23:04 PM
Surr: 4-Bromofluorobenzene	97.0	70-130		%Rec	1	6/15/2020 9:23:04 PM
Surr: Dibromofluoromethane	96.3	70-130		%Rec	1	6/15/2020 9:23:04 PM
Surr: Toluene-d8	99.3	70-130		%Rec	1	6/15/2020 9:23:04 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/15/2020 9:23:04 PM
Surr: BFB	100	70-130		%Rec	1	6/15/2020 9:23:04 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-15 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 10:20:00 AM

Lab ID: 2006732-015

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	14	10		mg/Kg	1	6/16/2020 1:55:14 PM
Motor Oil Range Organics (MRO)	82	50		mg/Kg	1	6/16/2020 1:55:14 PM
Surr: DNOP	113	55.1-146		%Rec	1	6/16/2020 1:55:14 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	120	60		mg/Kg	20	6/19/2020 4:07:56 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	6/15/2020 9:52:29 PM
Toluene	ND	0.050		mg/Kg	1	6/15/2020 9:52:29 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/15/2020 9:52:29 PM
Xylenes, Total	ND	0.099		mg/Kg	1	6/15/2020 9:52:29 PM
Surr: 1,2-Dichloroethane-d4	95.9	70-130		%Rec	1	6/15/2020 9:52:29 PM
Surr: 4-Bromofluorobenzene	95.7	70-130		%Rec	1	6/15/2020 9:52:29 PM
Surr: Dibromofluoromethane	98.1	70-130		%Rec	1	6/15/2020 9:52:29 PM
Surr: Toluene-d8	103	70-130		%Rec	1	6/15/2020 9:52:29 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/15/2020 9:52:29 PM
Surr: BFB	102	70-130		%Rec	1	6/15/2020 9:52:29 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	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-16 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 10:25:00 AM

Lab ID: 2006732-016

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	17	9.9		mg/Kg	1	6/16/2020 2:05:28 PM
Motor Oil Range Organics (MRO)	63	49		mg/Kg	1	6/16/2020 2:05:28 PM
Surr: DNOP	106	55.1-146		%Rec	1	6/16/2020 2:05:28 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	220	60		mg/Kg	20	6/19/2020 4:20:21 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	6/16/2020 1:14:31 PM
Toluene	ND	0.050		mg/Kg	1	6/16/2020 1:14:31 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/16/2020 1:14:31 PM
Xylenes, Total	ND	0.099		mg/Kg	1	6/16/2020 1:14:31 PM
Surr: 1,2-Dichloroethane-d4	97.9	70-130		%Rec	1	6/16/2020 1:14:31 PM
Surr: 4-Bromofluorobenzene	92.0	70-130		%Rec	1	6/16/2020 1:14:31 PM
Surr: Dibromofluoromethane	98.9	70-130		%Rec	1	6/16/2020 1:14:31 PM
Surr: Toluene-d8	106	70-130		%Rec	1	6/16/2020 1:14:31 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/16/2020 1:14:31 PM
Surr: BFB	96.6	70-130		%Rec	1	6/16/2020 1:14:31 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-17 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 10:30:00 AM

Lab ID: 2006732-017

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/15/2020 12:52:43 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/15/2020 12:52:43 PM
Surr: DNOP	136	55.1-146		%Rec	1	6/15/2020 12:52:43 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	6/19/2020 4:32:45 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	6/16/2020 1:43:11 PM
Toluene	ND	0.049		mg/Kg	1	6/16/2020 1:43:11 PM
Ethylbenzene	ND	0.049		mg/Kg	1	6/16/2020 1:43:11 PM
Xylenes, Total	ND	0.099		mg/Kg	1	6/16/2020 1:43:11 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	6/16/2020 1:43:11 PM
Surr: 4-Bromofluorobenzene	88.8	70-130		%Rec	1	6/16/2020 1:43:11 PM
Surr: Dibromofluoromethane	107	70-130		%Rec	1	6/16/2020 1:43:11 PM
Surr: Toluene-d8	102	70-130		%Rec	1	6/16/2020 1:43:11 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/16/2020 1:43:11 PM
Surr: BFB	92.6	70-130		%Rec	1	6/16/2020 1:43:11 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-18 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 10:35:00 AM

Lab ID: 2006732-018

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	25	10		mg/Kg	1	6/16/2020 2:15:43 PM
Motor Oil Range Organics (MRO)	96	50		mg/Kg	1	6/16/2020 2:15:43 PM
Surr: DNOP	108	55.1-146		%Rec	1	6/16/2020 2:15:43 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	6/19/2020 4:45:09 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.024		mg/Kg	1	6/16/2020 2:11:49 PM
Toluene	ND	0.049		mg/Kg	1	6/16/2020 2:11:49 PM
Ethylbenzene	ND	0.049		mg/Kg	1	6/16/2020 2:11:49 PM
Xylenes, Total	ND	0.098		mg/Kg	1	6/16/2020 2:11:49 PM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	6/16/2020 2:11:49 PM
Surr: 4-Bromofluorobenzene	89.8	70-130		%Rec	1	6/16/2020 2:11:49 PM
Surr: Dibromofluoromethane	103	70-130		%Rec	1	6/16/2020 2:11:49 PM
Surr: Toluene-d8	105	70-130		%Rec	1	6/16/2020 2:11:49 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/16/2020 2:11:49 PM
Surr: BFB	95.9	70-130		%Rec	1	6/16/2020 2:11:49 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-19 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 10:40:00 AM

Lab ID: 2006732-019

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/15/2020 1:13:13 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/15/2020 1:13:13 PM
Surr: DNOP	117	55.1-146		%Rec	1	6/15/2020 1:13:13 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	6/19/2020 4:57:33 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: JMR
Benzene	ND	0.025		mg/Kg	1	6/16/2020 2:40:26 PM
Toluene	ND	0.050		mg/Kg	1	6/16/2020 2:40:26 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/16/2020 2:40:26 PM
Xylenes, Total	ND	0.10		mg/Kg	1	6/16/2020 2:40:26 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	6/16/2020 2:40:26 PM
Surr: 4-Bromofluorobenzene	91.3	70-130		%Rec	1	6/16/2020 2:40:26 PM
Surr: Dibromofluoromethane	112	70-130		%Rec	1	6/16/2020 2:40:26 PM
Surr: Toluene-d8	101	70-130		%Rec	1	6/16/2020 2:40:26 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: JMR
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/16/2020 2:40:26 PM
Surr: BFB	94.6	70-130		%Rec	1	6/16/2020 2:40:26 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	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-20 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 10:45:00 AM

Lab ID: 2006732-020

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/15/2020 1:53:57 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/15/2020 1:53:57 PM
Surr: DNOP	122	55.1-146		%Rec	1	6/15/2020 1:53:57 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/15/2020 1:02:49 PM
Surr: BFB	81.5	66.6-105		%Rec	1	6/15/2020 1:02:49 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	6/15/2020 1:02:49 PM
Toluene	ND	0.048		mg/Kg	1	6/15/2020 1:02:49 PM
Ethylbenzene	ND	0.048		mg/Kg	1	6/15/2020 1:02:49 PM
Xylenes, Total	ND	0.095		mg/Kg	1	6/15/2020 1:02:49 PM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	6/15/2020 1:02:49 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	59		mg/Kg	20	6/19/2020 5:09:57 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-21 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 10:50:00 AM

Lab ID: 2006732-021

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/15/2020 2:24:35 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/15/2020 2:24:35 PM
Surr: DNOP	119	55.1-146		%Rec	1	6/15/2020 2:24:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/15/2020 2:13:30 PM
Surr: BFB	81.1	66.6-105		%Rec	1	6/15/2020 2:13:30 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	6/15/2020 2:13:30 PM
Toluene	ND	0.047		mg/Kg	1	6/15/2020 2:13:30 PM
Ethylbenzene	ND	0.047		mg/Kg	1	6/15/2020 2:13:30 PM
Xylenes, Total	ND	0.093		mg/Kg	1	6/15/2020 2:13:30 PM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	6/15/2020 2:13:30 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	6/19/2020 5:22:21 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-22 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 10:55:00 AM

Lab ID: 2006732-022

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/15/2020 2:34:47 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/15/2020 2:34:47 PM
Surr: DNOP	120	55.1-146		%Rec	1	6/15/2020 2:34:47 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/15/2020 3:24:25 PM
Surr: BFB	85.0	66.6-105		%Rec	1	6/15/2020 3:24:25 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	6/15/2020 3:24:25 PM
Toluene	ND	0.047		mg/Kg	1	6/15/2020 3:24:25 PM
Ethylbenzene	ND	0.047		mg/Kg	1	6/15/2020 3:24:25 PM
Xylenes, Total	ND	0.094		mg/Kg	1	6/15/2020 3:24:25 PM
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	6/15/2020 3:24:25 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	6/19/2020 5:34:45 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-01 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 7:45:00 AM

Lab ID: 2006732-023

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/15/2020 2:44:57 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/15/2020 2:44:57 PM
Surr: DNOP	120	55.1-146		%Rec	1	6/15/2020 2:44:57 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/15/2020 3:48:06 PM
Surr: BFB	84.1	66.6-105		%Rec	1	6/15/2020 3:48:06 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	6/15/2020 3:48:06 PM
Toluene	ND	0.048		mg/Kg	1	6/15/2020 3:48:06 PM
Ethylbenzene	ND	0.048		mg/Kg	1	6/15/2020 3:48:06 PM
Xylenes, Total	ND	0.096		mg/Kg	1	6/15/2020 3:48:06 PM
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	6/15/2020 3:48:06 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	150	60		mg/Kg	20	6/19/2020 5:47:10 PM

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

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

Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-02 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 7:50:00 AM

Lab ID: 2006732-024

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/15/2020 2:55:05 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/15/2020 2:55:05 PM
Surr: DNOP	125	55.1-146		%Rec	1	6/15/2020 2:55:05 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/15/2020 4:11:47 PM
Surr: BFB	83.0	66.6-105		%Rec	1	6/15/2020 4:11:47 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	6/15/2020 4:11:47 PM
Toluene	ND	0.049		mg/Kg	1	6/15/2020 4:11:47 PM
Ethylbenzene	ND	0.049		mg/Kg	1	6/15/2020 4:11:47 PM
Xylenes, Total	ND	0.098		mg/Kg	1	6/15/2020 4:11:47 PM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	6/15/2020 4:11:47 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	64	60		mg/Kg	20	6/19/2020 6:24:24 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-03 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 7:55:00 AM

Lab ID: 2006732-025

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/15/2020 3:05:14 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/15/2020 3:05:14 PM
Surr: DNOP	109	55.1-146		%Rec	1	6/15/2020 3:05:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/15/2020 5:46:27 PM
Surr: BFB	80.8	66.6-105		%Rec	1	6/15/2020 5:46:27 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	6/15/2020 5:46:27 PM
Toluene	ND	0.047		mg/Kg	1	6/15/2020 5:46:27 PM
Ethylbenzene	ND	0.047		mg/Kg	1	6/15/2020 5:46:27 PM
Xylenes, Total	ND	0.095		mg/Kg	1	6/15/2020 5:46:27 PM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	6/15/2020 5:46:27 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	97	60		mg/Kg	20	6/19/2020 6:36:49 PM

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

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

Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-04 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 8:00:00 AM

Lab ID: 2006732-026

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/15/2020 3:15:23 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/15/2020 3:15:23 PM
Surr: DNOP	111	55.1-146		%Rec	1	6/15/2020 3:15:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/15/2020 6:10:02 PM
Surr: BFB	79.2	66.6-105		%Rec	1	6/15/2020 6:10:02 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	6/15/2020 6:10:02 PM
Toluene	ND	0.047		mg/Kg	1	6/15/2020 6:10:02 PM
Ethylbenzene	ND	0.047		mg/Kg	1	6/15/2020 6:10:02 PM
Xylenes, Total	ND	0.094		mg/Kg	1	6/15/2020 6:10:02 PM
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	6/15/2020 6:10:02 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	81	60		mg/Kg	20	6/19/2020 6:49:14 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-05 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 8:05:00 AM

Lab ID: 2006732-027

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	19	9.5		mg/Kg	1	6/15/2020 3:25:31 PM
Motor Oil Range Organics (MRO)	57	48		mg/Kg	1	6/15/2020 3:25:31 PM
Surr: DNOP	117	55.1-146		%Rec	1	6/15/2020 3:25:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/15/2020 6:33:36 PM
Surr: BFB	79.3	66.6-105		%Rec	1	6/15/2020 6:33:36 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	6/15/2020 6:33:36 PM
Toluene	ND	0.047		mg/Kg	1	6/15/2020 6:33:36 PM
Ethylbenzene	ND	0.047		mg/Kg	1	6/15/2020 6:33:36 PM
Xylenes, Total	ND	0.094		mg/Kg	1	6/15/2020 6:33:36 PM
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	6/15/2020 6:33:36 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	6/19/2020 7:01:38 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-06 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 8:10:00 AM

Lab ID: 2006732-028

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/15/2020 3:35:38 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/15/2020 3:35:38 PM
Surr: DNOP	119	55.1-146		%Rec	1	6/15/2020 3:35:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/15/2020 6:57:02 PM
Surr: BFB	81.0	66.6-105		%Rec	1	6/15/2020 6:57:02 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	6/15/2020 6:57:02 PM
Toluene	ND	0.048		mg/Kg	1	6/15/2020 6:57:02 PM
Ethylbenzene	ND	0.048		mg/Kg	1	6/15/2020 6:57:02 PM
Xylenes, Total	ND	0.096		mg/Kg	1	6/15/2020 6:57:02 PM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	6/15/2020 6:57:02 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	61		mg/Kg	20	6/19/2020 7:14:03 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-07 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 8:15:00 AM

Lab ID: 2006732-029

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/15/2020 3:45:44 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/15/2020 3:45:44 PM
Surr: DNOP	117	55.1-146		%Rec	1	6/15/2020 3:45:44 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	6/15/2020 7:20:28 PM
Surr: BFB	81.7	66.6-105		%Rec	1	6/15/2020 7:20:28 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	6/15/2020 7:20:28 PM
Toluene	ND	0.046		mg/Kg	1	6/15/2020 7:20:28 PM
Ethylbenzene	ND	0.046		mg/Kg	1	6/15/2020 7:20:28 PM
Xylenes, Total	ND	0.092		mg/Kg	1	6/15/2020 7:20:28 PM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	6/15/2020 7:20:28 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	61		mg/Kg	20	6/19/2020 7:26:27 PM

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

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

Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-08 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 8:20:00 AM

Lab ID: 2006732-030

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	6/15/2020 3:55:49 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	6/15/2020 3:55:49 PM
Surr: DNOP	111	55.1-146		%Rec	1	6/15/2020 3:55:49 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/15/2020 7:43:53 PM
Surr: BFB	80.3	66.6-105		%Rec	1	6/15/2020 7:43:53 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	6/15/2020 7:43:53 PM
Toluene	ND	0.047		mg/Kg	1	6/15/2020 7:43:53 PM
Ethylbenzene	ND	0.047		mg/Kg	1	6/15/2020 7:43:53 PM
Xylenes, Total	ND	0.094		mg/Kg	1	6/15/2020 7:43:53 PM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	6/15/2020 7:43:53 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	6/19/2020 7:38:52 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-09 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 8:25:00 AM

Lab ID: 2006732-031

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	6/15/2020 4:05:53 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/15/2020 4:05:53 PM
Surr: DNOP	127	55.1-146		%Rec	1	6/15/2020 4:05:53 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/15/2020 8:07:14 PM
Surr: BFB	79.1	66.6-105		%Rec	1	6/15/2020 8:07:14 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	6/15/2020 8:07:14 PM
Toluene	ND	0.047		mg/Kg	1	6/15/2020 8:07:14 PM
Ethylbenzene	ND	0.047		mg/Kg	1	6/15/2020 8:07:14 PM
Xylenes, Total	ND	0.094		mg/Kg	1	6/15/2020 8:07:14 PM
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	6/15/2020 8:07:14 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	6/19/2020 8:16:05 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	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-10 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 8:30:00 AM

Lab ID: 2006732-032

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/15/2020 4:15:57 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/15/2020 4:15:57 PM
Surr: DNOP	136	55.1-146		%Rec	1	6/15/2020 4:15:57 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/15/2020 8:30:37 PM
Surr: BFB	79.2	66.6-105		%Rec	1	6/15/2020 8:30:37 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	6/15/2020 8:30:37 PM
Toluene	ND	0.050		mg/Kg	1	6/15/2020 8:30:37 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/15/2020 8:30:37 PM
Xylenes, Total	ND	0.10		mg/Kg	1	6/15/2020 8:30:37 PM
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	6/15/2020 8:30:37 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	6/19/2020 9:18:07 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-11 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 8:35:00 AM

Lab ID: 2006732-033

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/15/2020 4:26:08 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/15/2020 4:26:08 PM
Surr: DNOP	92.7	55.1-146		%Rec	1	6/15/2020 4:26:08 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	6/15/2020 8:54:00 PM
Surr: BFB	80.3	66.6-105		%Rec	1	6/15/2020 8:54:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	6/15/2020 8:54:00 PM
Toluene	ND	0.046		mg/Kg	1	6/15/2020 8:54:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	6/15/2020 8:54:00 PM
Xylenes, Total	ND	0.092		mg/Kg	1	6/15/2020 8:54:00 PM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	6/15/2020 8:54:00 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	6/19/2020 9:55:21 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-12 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 8:40:00 AM

Lab ID: 2006732-034

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	14	9.8		mg/Kg	1	6/15/2020 4:36:09 PM
Motor Oil Range Organics (MRO)	51	49		mg/Kg	1	6/15/2020 4:36:09 PM
Surr: DNOP	113	55.1-146		%Rec	1	6/15/2020 4:36:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/15/2020 9:17:24 PM
Surr: BFB	81.1	66.6-105		%Rec	1	6/15/2020 9:17:24 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	6/15/2020 9:17:24 PM
Toluene	ND	0.048		mg/Kg	1	6/15/2020 9:17:24 PM
Ethylbenzene	ND	0.048		mg/Kg	1	6/15/2020 9:17:24 PM
Xylenes, Total	ND	0.097		mg/Kg	1	6/15/2020 9:17:24 PM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	6/15/2020 9:17:24 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	6/19/2020 10:07:46 PM

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

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

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Analytical Report

Lab Order 2006732

Date Reported: 6/22/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: WS20-13 0'

Project: Bilbrey 33 Fed Com 3H

Collection Date: 6/11/2020 8:45:00 AM

Lab ID: 2006732-035

Matrix: SOIL

Received Date: 6/13/2020 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: CLP
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/15/2020 4:46:08 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/15/2020 4:46:08 PM
Surr: DNOP	108	55.1-146		%Rec	1	6/15/2020 4:46:08 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/15/2020 10:51:18 PM
Surr: BFB	91.7	66.6-105		%Rec	1	6/15/2020 10:51:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	6/15/2020 10:51:18 PM
Toluene	ND	0.047		mg/Kg	1	6/15/2020 10:51:18 PM
Ethylbenzene	ND	0.047		mg/Kg	1	6/15/2020 10:51:18 PM
Xylenes, Total	ND	0.093		mg/Kg	1	6/15/2020 10:51:18 PM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	6/15/2020 10:51:18 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	62	59		mg/Kg	20	6/19/2020 10:20:11 PM

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

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

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

WO#: 2006732

22-Jun-20

Client: Devon Energy
Project: Bilbrey 33 Fed Com 3H

Sample ID: MB-53160	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 53160	RunNo: 69742								
Prep Date: 6/18/2020	Analysis Date: 6/18/2020	SeqNo: 2421410		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-53160	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 53160	RunNo: 69742								
Prep Date: 6/18/2020	Analysis Date: 6/18/2020	SeqNo: 2421411		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.6	90	110			

Sample ID: MB-53173	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 53173	RunNo: 69779								
Prep Date: 6/19/2020	Analysis Date: 6/19/2020	SeqNo: 2422627		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-53173	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 53173	RunNo: 69779								
Prep Date: 6/19/2020	Analysis Date: 6/19/2020	SeqNo: 2422628		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.2	90	110			

Sample ID: MB-53176	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 53176	RunNo: 69779								
Prep Date: 6/19/2020	Analysis Date: 6/19/2020	SeqNo: 2422658		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-53176	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 53176	RunNo: 69779								
Prep Date: 6/19/2020	Analysis Date: 6/19/2020	SeqNo: 2422659		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.8	90	110			

Qualifiers:

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

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

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

WO#: 2006732

22-Jun-20

Client: Devon Energy
Project: Bilbrey 33 Fed Com 3H

Sample ID: MB-53072	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 53072	RunNo: 69636								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2417253 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		116	55.1	146			

Sample ID: LCS-53072	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 53072	RunNo: 69636								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2417254 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	71	10	50.00	0	141	70	130			S
Surr: DNOP	6.3		5.000		125	55.1	146			

Sample ID: MB-53075	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 53075	RunNo: 69636								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2417806 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		123	55.1	146			

Sample ID: LCS-53075	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 53075	RunNo: 69636								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2417807 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	10	50.00	0	120	70	130			
Surr: DNOP	5.8		5.000		116	55.1	146			

Sample ID: 2006732-020AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BS20-20 0'	Batch ID: 53075	RunNo: 69636								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2417814 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	9.8	48.78	0	123	47.4	136			
Surr: DNOP	6.0		4.878		124	55.1	146			

Qualifiers:

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

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

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

WO#: 2006732

22-Jun-20

Client: Devon Energy
Project: Bilbrey 33 Fed Com 3H

Sample ID: 2006732-020AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BS20-20 0'	Batch ID: 53075	RunNo: 69636								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2417815	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	63	9.9	49.65	0	127	47.4	136	5.12	43.4	
Surr: DNOP	6.3		4.965		127	55.1	146	0	0	

Sample ID: MB-53087	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 53087	RunNo: 69663								
Prep Date: 6/15/2020	Analysis Date: 6/16/2020	SeqNo: 2418400	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	15		10.00		149	55.1	146			S

Sample ID: LCS-53087	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 53087	RunNo: 69663								
Prep Date: 6/15/2020	Analysis Date: 6/16/2020	SeqNo: 2418407	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	56	10	50.00	0	112	70	130			
Surr: DNOP	5.9		5.000		118	55.1	146			

Qualifiers:

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

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

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

WO#: 2006732

22-Jun-20

Client: Devon Energy
Project: Bilbrey 33 Fed Com 3H

Sample ID: mb-53074	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 53074		RunNo: 69658							
Prep Date: 6/14/2020	Analysis Date: 6/15/2020		SeqNo: 2417955		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	850		1000		84.9	66.6	105			

Sample ID: lcs-53074	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 53074		RunNo: 69658							
Prep Date: 6/14/2020	Analysis Date: 6/15/2020		SeqNo: 2417956		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	86.0	80	120			
Surr: BFB	970		1000		96.6	66.6	105			

Sample ID: 2006732-021ams	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: BS20-21 0'	Batch ID: 53074		RunNo: 69658							
Prep Date: 6/14/2020	Analysis Date: 6/15/2020		SeqNo: 2417959		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.8	24.15	0	88.2	80	120			
Surr: BFB	860		966.2		89.4	66.6	105			

Sample ID: 2006732-021amsd	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: BS20-21 0'	Batch ID: 53074		RunNo: 69658							
Prep Date: 6/14/2020	Analysis Date: 6/15/2020		SeqNo: 2417960		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	24.93	0	86.0	80	120	0.523	20	
Surr: BFB	910		997.0		91.5	66.6	105	0	0	

Qualifiers:

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

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

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

WO#: 2006732

22-Jun-20

Client: Devon Energy
Project: Bilbrey 33 Fed Com 3H

Sample ID: mb-53074	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 53074	RunNo: 69658								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2417988 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		105	80	120			

Sample ID: LCS-53074	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 53074	RunNo: 69658								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2417989 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.1	80	120			
Toluene	0.94	0.050	1.000	0	93.9	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.8	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.8	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID: 2006732-020ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: BS20-20 0'	Batch ID: 53074	RunNo: 69658								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2417991 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.024	0.9524	0	99.6	78.5	119			
Toluene	0.99	0.048	0.9524	0.01065	103	75.7	123			
Ethylbenzene	1.0	0.048	0.9524	0	105	74.3	126			
Xylenes, Total	3.0	0.095	2.857	0	105	72.9	130			
Surr: 4-Bromofluorobenzene	1.0		0.9524		106	80	120			

Sample ID: 2006732-020amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: BS20-20 0'	Batch ID: 53074	RunNo: 69658								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2417992 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9843	0	103	78.5	119	6.23	20	
Toluene	1.1	0.049	0.9843	0.01065	106	75.7	123	6.04	20	
Ethylbenzene	1.1	0.049	0.9843	0	108	74.3	126	6.96	20	
Xylenes, Total	3.2	0.098	2.953	0	109	72.9	130	7.26	20	
Surr: 4-Bromofluorobenzene	1.0		0.9843		105	80	120	0	0	

Qualifiers:

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

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

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

WO#: 2006732

22-Jun-20

Client: Devon Energy
Project: Bilbrey 33 Fed Com 3H

Sample ID: mb-53071	SampType: MBLK	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: PBS	Batch ID: 53071	RunNo: 69666								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2418539			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.2	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.5000		89.9	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		95.6	70	130			
Surr: Toluene-d8	0.50		0.5000		99.4	70	130			

Sample ID: lcs-53071	SampType: LCS4	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: BatchQC	Batch ID: 53071	RunNo: 69666								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2418540			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	93.3	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.1	0.10	3.000	0	105	80	120			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.5	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.7	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		95.6	70	130			
Surr: Toluene-d8	0.50		0.5000		99.1	70	130			

Sample ID: 2006732-001ams	SampType: MS4	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: BS20-01 0'	Batch ID: 53071	RunNo: 69666								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2418543			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9785	0	107	71.1	115			
Toluene	1.1	0.049	0.9785	0	113	79.6	132			
Ethylbenzene	1.2	0.049	0.9785	0	118	83.8	134			
Xylenes, Total	3.3	0.098	2.935	0	112	82.4	132			
Surr: 1,2-Dichloroethane-d4	0.48		0.4892		98.3	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.4892		98.0	70	130			
Surr: Dibromofluoromethane	0.49		0.4892		99.6	70	130			
Surr: Toluene-d8	0.50		0.4892		102	70	130			

Qualifiers:

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

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

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

WO#: 2006732

22-Jun-20

Client: Devon Energy
Project: Bilbrey 33 Fed Com 3H

Sample ID: 2006732-001amsd		SampType: MSD4		TestCode: EPA Method 8260B: Volatiles Short List						
Client ID: BS20-01 0'		Batch ID: 53071		RunNo: 69666						
Prep Date: 6/14/2020		Analysis Date: 6/15/2020		SeqNo: 2418544		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	0.9970	0	92.0	71.1	115	13.3	20	
Toluene	0.91	0.050	0.9970	0	91.7	79.6	132	18.9	20	
Ethylbenzene	0.92	0.050	0.9970	0	92.4	83.8	134	22.4	20	R
Xylenes, Total	2.7	0.10	2.991	0	90.7	82.4	132	19.4	20	
Surr: 1,2-Dichloroethane-d4	0.50		0.4985		99.7	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.46		0.4985		92.5	70	130	0	0	
Surr: Dibromofluoromethane	0.50		0.4985		99.4	70	130	0	0	
Surr: Toluene-d8	0.48		0.4985		96.1	70	130	0	0	

Qualifiers:

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

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

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

WO#: 2006732

22-Jun-20

Client: Devon Energy
Project: Bilbrey 33 Fed Com 3H

Sample ID: mb-53071	SampType: MBLK	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: PBS	Batch ID: 53071	RunNo: 69666								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2418498 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	510		500.0		102	70	130			

Sample ID: lcs-53071	SampType: LCS	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: LCSS	Batch ID: 53071	RunNo: 69666								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2418499 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	86.1	70	130			
Surr: BFB	490		500.0		98.5	70	130			

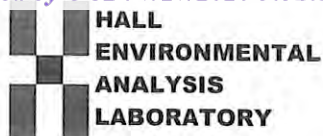
Sample ID: 2006732-002ams	SampType: MS	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: BS20-02 0'	Batch ID: 53071	RunNo: 69666								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2418503 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	24.98	0	78.6	70	130			
Surr: BFB	500		499.5		101	70	130			

Sample ID: 2006732-002amsd	SampType: MSD	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: BS20-02 0'	Batch ID: 53071	RunNo: 69666								
Prep Date: 6/14/2020	Analysis Date: 6/15/2020	SeqNo: 2418504 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	24.78	0	93.3	70	130	16.3	20	
Surr: BFB	520		495.5		105	70	130	0	0	

Qualifiers:

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

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



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TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **DEVON ENERGY**Work Order Number: **2006732**

RcptNo: 1

Received By: **Isaiah Ortiz**

6/13/2020 9:05:00 AM

I-OX

Completed By: **Isaiah Ortiz**

6/13/2020 9:42:30 AM

I-OX

Reviewed By: **DF 6/13/2020**

Chain of Custody

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

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

IO
6/13/20

Special Handling (if applicable)

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

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

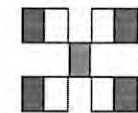
Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Not Present			

Chain-of-Custody Record		Turn-Around Time: 5 Day
Client: Devon	<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> Rush
A. Davis / W. Matthews	Project Name: B. Boney 33 Fed Com 3H	
Mailing Address:		



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com


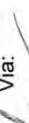


4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

email or Fax#:	Project Manager: <i>Natalie Gordon</i>	
QA/QC Package:		
<input type="checkbox"/> Standard	<input type="checkbox"/> Level 4 (Full Validation)	
Accreditation:	<input type="checkbox"/> Az Compliance	
<input type="checkbox"/> NELAC	<input type="checkbox"/> Other _____	
<input type="checkbox"/> EDD (Type)		
	Sampler: <i>MSP</i>	
	On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	# of Coolers: <i>1</i>	

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	Cooler Temp (including CF): 1.2-0 CF 1.7°C (°C)
6/11	9:10	Soil	BS20-01 0'	402	ice	2006732	-001
	9:15		BS20-02 0'				-007
	9:20		BS20-03 0'				-003
	9:25		BS20-04 0'				-004
	9:30		BS20-05 0'				-005
	9:35		BS20-06 0'				-006
	9:40		BS20-07 0'				-007
	9:45		BS20-08 0'				-008
	9:50		BS20-09 0'				-009
	9:55		BS20-10 0'				-010
	10:00		BS20-11 0'				-011
	10:05		BS20-12 0'				-017

Date:	Time:	Relinquished by:	Received by:	Via:	Date:	Time:
6/2/20	0830				6/2/20	0830
6/2/20	1900				6/2/20	0830

[illegible]

Remarks: Dict
Bill Devar
CC: Natalie Gordon

3/0/20715700

Chain-of-Custody Record

Client: Devon

A. Davis / W. Mathews

Mailing Address:

Turn-Around Time: 5 Day

☒ Standard ☐ Rush

Project Name: Bilbrey 33 Fed Corn 3H

Project #: 20E-00141

Project Manager: Natalie Gordon

Sampler: MJP

On Ice: ☒ Yes ☐ No

of Coolers: 1

Cooler Temp (including CF): 12-0 deg 12.2 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
6/11	10:10	Soil	B520-13	0'	✓	2006732
	10:15		B520-14	0'	✓	-013
	10:20		B520-15	0'	✓	-014
	10:25		B520-16	0'	✓	-015
	10:30		B520-17	0'	✓	-016
	10:35		B520-18	0'	✓	-017
	10:40		B520-19	0'	✓	-018
	10:45		B520-20	0'	✓	-019
	10:50		B520-21	0'	✓	-020
	10:55		B520-22	0'	✓	-021
	7:45		W520-01	0'	✓	-022
	7:50		W520-02	0'	✓	-023
					✓	-024

Relinquished by: WMA

Relinquished by: WMA

Date: 6/12/20 Time: 0830

Date: 6/12/20 Time: 1900

Received by: [Signature]

Received by: [Signature]

Date: 6/21/20 Time: 0830

Date: 6/13/20 Time: 0905



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

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)
✓	✓	✓	✓	✓	✓	✓	✓	✓

Remarks:

Direct bill
Devon

CC: Natalie Gordon

w/o #: 20715700



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

July 21, 2020

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

RE: Bilbrey 33 Fed 3

OrderNo.: 2007626

Dear Amanda Davis:

Hall Environmental Analysis Laboratory received 1 sample(s) on 7/14/2020 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2007626

Date Reported: 7/21/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: BS20-18 0'

Project: Bilbrey 33 Fed 3

Collection Date: 7/10/2020 2:31:00 PM

Lab ID: 2007626-001

Matrix: SOIL

Received Date: 7/14/2020 9:53:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/16/2020 10:03:03 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/16/2020 10:03:03 PM
Surr: DNOP	79.6	55.1-146		%Rec	1	7/16/2020 10:03:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/15/2020 10:21:41 PM
Surr: BFB	82.4	66.6-105		%Rec	1	7/15/2020 10:21:41 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	7/15/2020 10:21:41 PM
Toluene	ND	0.047		mg/Kg	1	7/15/2020 10:21:41 PM
Ethylbenzene	ND	0.047		mg/Kg	1	7/15/2020 10:21:41 PM
Xylenes, Total	ND	0.094		mg/Kg	1	7/15/2020 10:21:41 PM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	7/15/2020 10:21:41 PM
EPA METHOD 300.0: ANIONS						Analyst: CAS
Chloride	ND	60		mg/Kg	20	7/16/2020 8:30:11 PM

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

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

Page 1 of 5

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

WO#: 2007626

21-Jul-20

Client: Devon Energy
Project: Bilbrey 33 Fed 3

Sample ID: MB-53775	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 53775	RunNo: 70410								
Prep Date: 7/16/2020	Analysis Date: 7/16/2020	SeqNo: 2447592	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-53775	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 53775	RunNo: 70410								
Prep Date: 7/16/2020	Analysis Date: 7/16/2020	SeqNo: 2447593	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.5	90	110			

Qualifiers:

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

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

Page 2 of 5

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

WO#: 2007626

21-Jul-20

Client: Devon Energy
Project: Bilbrey 33 Fed 3

Sample ID: LCS-53718	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 53718		RunNo: 70424							
Prep Date: 7/15/2020	Analysis Date: 7/16/2020		SeqNo: 2448151		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	85.6	70	130			
Surr: DNOP	3.6		5.000		71.7	55.1	146			

Sample ID: MB-53718	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 53718		RunNo: 70424							
Prep Date: 7/15/2020	Analysis Date: 7/16/2020		SeqNo: 2448153		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.2		10.00		72.3	55.1	146			

Sample ID: 2007626-001AMS	SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: BS20-18 0'	Batch ID: 53718		RunNo: 70424							
Prep Date: 7/15/2020	Analysis Date: 7/16/2020		SeqNo: 2448157		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.6	48.22	4.422	79.0	47.4	136			
Surr: DNOP	3.5		4.822		72.8	55.1	146			

Sample ID: 2007626-001AMSD	SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: BS20-18 0'	Batch ID: 53718		RunNo: 70424							
Prep Date: 7/15/2020	Analysis Date: 7/16/2020		SeqNo: 2448158		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.8	48.78	4.422	84.6	47.4	136	7.18	43.4	
Surr: DNOP	3.5		4.878		71.9	55.1	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 Quantitative Limit
S % Recovery outside of range due to dilution or matrix

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

Page 3 of 5

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

WO#: 2007626

21-Jul-20

Client: Devon Energy
Project: Bilbrey 33 Fed 3

Sample ID: mb-53699	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 53699	RunNo: 70352								
Prep Date: 7/14/2020	Analysis Date: 7/16/2020	SeqNo: 2445995	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		92.4	66.6	105			

Sample ID: lcs-53699	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 53699	RunNo: 70352								
Prep Date: 7/14/2020	Analysis Date: 7/15/2020	SeqNo: 2445996	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	84.1	80	120			
Surr: BFB	960		1000		96.4	66.6	105			

Qualifiers:

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

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

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

WO#: 2007626

21-Jul-20

Client: Devon Energy
Project: Billbrey 33 Fed 3

Sample ID: mb-53699	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 53699	RunNo: 70352								
Prep Date: 7/14/2020	Analysis Date: 7/16/2020	SeqNo: 2446043	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		109	80	120			

Sample ID: LCS-53699	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 53699	RunNo: 70352								
Prep Date: 7/14/2020	Analysis Date: 7/15/2020	SeqNo: 2446044	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	100	80	120			
Toluene	1.0	0.050	1.000	0	99.8	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Qualifiers:

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

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



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

Sample Log-In Check List

Client Name: Devon Energy

Work Order Number: 2007626

RcptNo: 1

Received By: Juan Rojas

7/14/2020 9:53:00 AM

[Signature]

Completed By: Juan Rojas

7/14/2020 10:26:23 AM

[Signature]

Reviewed By:

SR 7/14/20

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: *SPA 7.14.20*

Special Handling (if applicable)

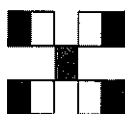
15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

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

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.6	Good				
2	1.0	Good				



www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

[illegible]

Remarks:

Send to Natalie Gordon

Direct Mail Denver

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 9395

CONDITIONS OF APPROVAL

Operator:	OGRID:	Action Number:	Action Type:
PIMA ENVIRONMENTAL SERVICES, L Suite 500 Hobbs, NM88240	329999	9395	C-141
1601 N. Turner			
OCD Reviewer	Condition		
chensley	None		