State of New Mexico
Oil Conservation Division

Incident ID	nAPP2201348579
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2201348579
District RP	
Facility ID	
Application ID	

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

Printed Name: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 10/10/2022

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

OCD Only

Received by: Jocelyn Harimon Date: 10/10/2022

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2201348579
District RP	
Facility ID	
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Remediation Plan

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

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

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

- [ ] Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- [ ] Extents of contamination must be fully delineated.
- [ ] Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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Printed Name: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 10/10/2022

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

OCD Only

Received by: Jocelyn Harimon Date: 10/10/2022

- [ ] Approved
- [ ] Approved with Attached Conditions of Approval
- [ ] Denied
- [ ] Deferral Approved

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2201348579
District RP	
Facility ID	
Application ID	

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: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 10/10/2022

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

OCD Only

Received by: Jocelyn Harimon Date: 10/10/2022

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: Jennifer Nobui Date: 10/26/2022

Printed Name: Jennifer Nobui Title: Environmental Specialist A

VERTEX

July 19, 2022 Vertex Project #: 22E-01101

Spill Closure Report: Gaucho Unit 6H CTB
Section 17, Township 22 South, Range 34 East
API: N/A
County: Lea
Incident Reports: nOY1727243107, nAPP2208733407, nKJ1602628821, nAPP2201348579

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 88210

Devon Energy Production Company (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a Spill Assessment for multiple releases that occurred at Gaucho Unit 6H CTB, incidents nOY1727243107, nAPP2208733407, nKJ1602628821, nAPP2201348579 (hereafter referred to as "Gaucho"). Devon provided spill notifications to the New Mexico Oil Conservation District (NMOCD) District 1, via submission of initial C-141 Release Notifications (Attachment 1). This letter provides a description of the spill assessment and includes a request for spill closure. The spill area is located at N 32.386493, W -103.486060.

Background

The site is located approximately 15 miles southwest of Oil Center, New Mexico (Google Inc., 2022). The legal location for the site is Section 17, Township 22 South and Range 34 East in Lea County, New Mexico. The spill area is located on Bureau of Land Management (BLM) property. An aerial photograph and site schematic are included in Figures 1 and 2 (Attachment 2).

The *Geological Map of New Mexico* indicates the surface geology at Gaucho is comprised of Qep – eolian and piedmont deposits that include eolian sands interlaid with piedmont-slope deposits (New Mexico Bureau of Geology and Mineral Resources, 2022). The Natural Resources Conservation Service *Web Soil Survey* characterizes the soil at the site as Kermit soils and Dune land, characterized by fine sand. It tends to be excessively drained with low to very low runoff and low available moisture levels in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2022).

The surrounding landscape is associated with plains, hills, and dunes typical of elevations of 2,842 to 4,500 feet above sea level. The climate is semi-arid, with average annual precipitation ranging between 8 and 13 inches. Historically, the plant community was dominated by a mixture of grasses, shrubs and forbs. Sand bluestem and giant dropseed are the dominant grasses; sand shinnery oak and soapweed yucca are the dominant shrubs (United States Department of Agriculture, Natural Resources Conservation Service, 2022). Limited to no vegetation is allowed to grow on the

compacted facility pad.

There is no surface water located on-site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 of the New Mexico Administrative Code (NMAC), is an intermittent stream, located 1 mile southeast of the site (United States Fish and Wildlife Service; National Wetlands Inventory, 2021). There are no continuously flowing watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features at Gaucho as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

Incident Descriptions

nKJ1602628821

The first release occurred on January 22, 2016, due to a separator clamp being turned on while a leak was being repaired. The spill was reported on January 25, 2016, and involved the release of approximately 30 barrels (bbl.) of produced water on the pad site near the heater treater. Approximately 20 bbl. of free fluid was removed during initial spill clean-up.

nOY1727243107

The second release occurred on September 14, 2017, due to an oil tank running over. The spill was reported on September 14, 2017, and involved the release of approximately 30 bbl. of oil into the secondary lined containment. Approximately 30 bbl. of free fluid was removed during initial spill clean-up.

nAPP2201348579

The third release occurred on December 28, 2021, due to fluid running out of the tube from the heater. The spill was reported on January 12, 2022, and involved the release of approximately 7 bbl. into the secondary lined containment and outside of containment onto the engineered pad. Approximately 5 bbl. of free fluid was removed during initial spill clean-up.

nAPP2208733407

The fourth release occurred on March 25, 2022, due to high line pressure causing the oil dump to hang open sending gas to the oil tank. The spill was reported on March 28, 2022, involved the release of approximately 8 bbl. into the secondary lined containment and onto the engineered pad. Approximately 7 bbls. Of free fluid was removed during initial spill clean-up.

All releases were assessed through remediation efforts at the same time. The NMOCD C-141 Reports nKJ1602628821, nOY1727243107, nAPP2201348579, and nAPP2208733407 are included in Attachment 1. The characterization schematic is presented on Figure 1 (Attachment 2). Field screening and laboratory analysis from the initial site visit are presented in Table 2 (Attachment 3). The Daily Field Report (DFRs), site photographs and Daily Soil Sampling Reports (DSSs) are included in Attachment 4.

Closure Criteria Determination

The depth to groundwater was determined using information from the United States Geological Survey National Water Information Mapping System and Office of the State Engineers Water Rights Database. A 0.5-mile search radius was

used to determine groundwater depth. The closest recorded depth to groundwater was determined to be 605 feet below ground surface (bgs) and 0.8 miles from Gaucho (New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2022). Documentation used in Closure Criteria Determination research is included in Attachment 5.

Closure Criteria Worksheet			
Site Name: Gaucho Unit 6H CTB			
Spill Coordinates:		**X: 32.3862648**	**Y: -103.4856415**
Site Specific Conditions		**Value**	**Unit**
1	Depth to Groundwater	**605**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	5,309	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	15,378	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	18,491	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**	4,225	feet
	ii) Within 1000 feet of any fresh water well or spring	4,225	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	8,106	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	Undetermined	year
11	Soil Type	Fine sand	
12	Ecological Classification	Sandhills	
13	Geology	Eolian and piedmont deposits	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'	<50' 51-100' >100'

Based on data included in the closure criteria determination worksheet, the release at Gaucho is not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 of the New Mexico Administrative Code (NMAC; New Mexico Oil Conservation Division, 2018). The nearest depth to groundwater reference is more than 0.5 miles from the site; therefore, the closure criteria for the incident assume the most stringent conditions (depth to groundwater <50 feet bgs) and are determined to be associated with the following constituent concentration limits as presented in Table 1.

Table 1. Closure Criteria for Soils Impacted by a Release

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

[1]Total dissolved solids (TDS)
[2]Total petroleum hydrocarbons (TPH) = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)
[3]Benzene, toluene, ethylbenzene, and xylenes (BTEX)

Remedial Actions Taken

An initial site inspection of the spill area was completed on May 18, 2022, which identified the areas of the spill specified in the initial C-141 Reports and estimated the approximate impacted area. The impacted area near the tank battery containment was determined to be approximately 18 feet long and 8 feet wide, and approximately 73 feet long and 70 feet wide near the heater treater; the total affected area for the release area was determined to be 82 square feet for the area near the tank battery containment and 1,953 square feet for the release area near the heater treater. Laboratory results from initial characterization are provided in Table 2 and Table 3 (Attachment 3). The DFRs and DSSs associated with the site inspections are included in Attachment 4. Aerial site schematics are included on Figures 1 and 2 (Attachment 2).

Remediation efforts began on June 16, 2022, and were completed on July 8, 2022. Vertex personnel supervised the excavation of impacted soils. Field screening was completed for the guidance of excavation and consisted of analysis using a Photo Ionization Detector (volatile hydrocarbons), Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and EC Meter (chlorides). Field screening results were used to identify areas requiring further remediation from those areas showing concentrations below determined closure criteria levels. Soils were removed to a depth of 0.5 feet bgs, 4 feet bgs, 5 feet bgs, and 6 feet bgs in the excavation area near the heater treater and a depth of 4 feet bgs in the excavation near the tank battery containment. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. Field screening results are presented in Attachment 3, as well as in the DFRs in Attachment 4.

Notification that a liner inspection and confirmation sampling was scheduled to be completed was provided to the NMOCD on June 17, 2022 (Attachment 6). Visual observation of the liner was completed on all sides and the base of the containment, around equipment, and of all seams in the liner. Confirmatory composite samples were collected from

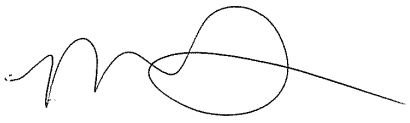
the base and walls of the excavation in 200 square foot increments. A total of 16 samples were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Hall Environmental Analysis Laboratory under chain-of-custody protocols and analyzed for BTEX (EPA Method 8021B), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D) and total chlorides (EPA Method 300.0). Laboratory results are presented in Tables 4 and 5 (Attachment 3) and the laboratory data report is included in Attachment 7. All confirmatory samples collected and analyzed were below closure criteria for the site. As evidenced in the DFR (Attachment 3) liner integrity was confirmed.

Notification that additional confirmation sampling was scheduled to be completed was provided to the NMOCD on July 5, 2022 (Attachment 6). Additional confirmatory samples were collected from the base and walls of the excavation in 200 square foot increments. A total of 13 additional samples were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Hall Environmental Analysis Laboratory under chain-of-custody protocols and analyzed for BTEX (EPA Method 8021B), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D) and total chlorides (EPA Method 300.0). Laboratory results are presented in Tables 4 and 5 (Attachment 3) and the laboratory data report is included in Attachment 7. All confirmatory samples collected and analyzed were below closure criteria for the site. An aerial view of excavation and confirmatory sample locations are presented in Figures 3 and 4 (Attachment 2).

Closure Request

The spill area was fully delineated, remediated and backfilled with local soils by July 8, 2022. Confirmatory Sample and Liner Inspection Notification emails are included in Attachment 6. Confirmatory samples were analyzed by the laboratory and found to be below allowable concentrations as per the NMAC Closure Criteria for Soils Impacted by a Release locations “under 50 feet to groundwater”. Based on these findings, Devon Energy Production Company requests that this spill be closed.

Should you have any questions or concerns, please do not hesitate to contact the undersigned at 575.361.9880 or mpeppin@vertex.ca.



July 19, 2022

Monica Peppin
PROJECT MANAGER, REPORTING

Date

Attachments

References

Google Inc. (2022). *Google Earth Pro (Version 7.3.4)* [Software]. Retrieved from http://www.google.com/earth on March 1, 2022.

New Mexico Bureau of Geology and Mineral Resources. (2022). *Interactive Geologic Map*. Retrieved from http://geoinfo.nmt.edu.

New Mexico Energy, Minerals and Natural Resources Department. (2022). *Coal Mine Resources in New Mexico*. Retrieved from http://www.emnrd.state.nm.us/MMD/gismapminedata.html

New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System. (2022a). *Water Column/Average Depth to Water Report*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html.

New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System. (2022b). *Point of Diversion Location Report*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/wellSurfaceDiversion.html.

New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System. (2022c). *Well Log/Meter Information Report*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/meterReport.html

New Mexico Oil Conservation Division. (2018). *New Mexico Administrative Code – Natural Resources and Wildlife Oil and Gas Releases*. Santa Fe, New Mexico.

United States Department of Agriculture, Natural Resources Conservation Service. (2022). *Web Soil Survey*. Retrieved from https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

United States Department of Homeland Security, FEMA Flood Map Service Center. (2020). *Flood Map Number 35025C1625D*. Retrieved from https://msc.fema.gov/portal/search?AddressQuery=malaga%20new%20mexico#searchresultsanchor.

United States Department of the Interior, Bureau of Land Management. (2018). *CFO Karst Public*. https://www.nm.blm.gov/shapeFiles/cfo/carlsbad_spatial_data.html.

United States Fish and Wildlife Service. (2022). *National Wetlands Inventory*. Retrieved from https://www.fws.gov/wetlands/data/Mapper.html.

Limitations

This report has been prepared for the sole benefit of Devon Energy Production Company. This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division and Bureau of Land Management, without the express written consent of Vertex Resource Services Inc. (Vertex) and Devon Energy Production Company. 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	nKJ1602628821
District RP	1RP-4116
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Devon Energy Production Company	OGRID 6137
Contact Name Dale Woodall	Contact Telephone 575-748-1838
Contact email dale.woodall@dvn.com	Incident # *(assigned by OCD)* nKJ1602628821
Contact mailing address 6488 Seven Rivers Hwy Artesia, NM 88210	

Location of Release Source

Latitude 32.3862562 Longitude -103.4856777
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Gaucho Unit 6H	Site Type Gas Well
Date Release Discovered 01/22/2016	API# *(if applicable)* 30-025-34789

Unit Letter	Section	Township	Range	County
P	17	22S	34E	Lea

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 30 bbls	Volume Recovered (bbls) 20 bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

While repairing leak on separator clamp was turned to open position resulting in produced water release. Clamp was turned to closed position to prevent further release. New clamp and vertical ball valve were installed.
Approximate size of affected area 60X80.

State of New Mexico
Oil Conservation Division

Incident ID	nKJ1602628821
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? >25 bbls

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Kelly Miller via email to BLM 1/25/16 7:45 AM and OCD 1/25/16 11:25 AM

Initial Response

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

☒ The source of the release has been stopped.

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

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

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

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

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

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

Printed Name: Dale Woodall Title: EHS Professional

Signature: _____ Date: _____

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nKJ1602628821
District RP	1RP-4116
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nKJ1602628821
District RP	1RP-4116
Facility ID	
Application ID	

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

Printed Name: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 10/10/2022

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nKJ1602628821
District RP	1RP-4116
Facility ID	
Application ID	

Remediation Plan

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

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

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

- [ ] Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- [ ] Extents of contamination must be fully delineated.
- [ ] Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 10/10/2022

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

OCD Only

Received by: _____ Date: _____

- [ ] Approved
- [ ] Approved with Attached Conditions of Approval
- [ ] Denied
- [ ] Deferral Approved

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nKJ1602628821
District RP	1RP-4116
Facility ID	
Application ID	

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: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 10/10/2022

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

OCD Only

Received by: _____ Date: _____

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: _____ Date: _____

Printed Name: _____ Title: _____

4441District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☒ Final Report

Name of Company Devon Energy Production Company	**Contact** Hubert Perry, Production Foreman
Address 6488 Seven Rivers Hwy Artesia, NM 88210	**Telephone No.**575-513-9637
Facility Name Gaucho Unit 6H	**Facility Type** Oil

Surface Owner Federal	**Mineral Owner** Federal	**API No 30-025-34789**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	17	22S	34E	660	South	660	East	Lea

Latitude: 32.3862648 **Longitude:**-103.4856415

NATURE OF RELEASE

Type of Release Oil	**Volume of Release** 30BBLS	**Volume Recovered 30**BBLS
Source of Release Oil Tank	**Date and Hour of Occurrence** 9/14/2017 @ 5:00 AM	**Date and Hour of Discovery** 9/14/2017 @ 5:00 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	**If YES, To Whom?** OCD-Olivia Yu BLM-Shelly Tucker	
By Whom? Mike Shoemaker, EHS Professional	**Date and Hour** BLM- Shelly 9/14/2017 @ 11:05 PM OCD- Olivia Yu 9/14/2017 @ 11:08 PM	
Was a Watercourse Reached? ☐ Yes ☒ No	**If YES, Volume Impacting the Watercourse**	

RECEIVED
By Olivia Yu at 11:56 am, Sep 29, 2017

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

Describe Cause of Problem and Remedial Action Taken.*
While completing routine route the lease operator found the oil tank running over reviewed Cygnet and had not received any alarms. The operator switched out of that tank and into the next tank to stop any further release. The oil storage tank had overflowed into the lined containment. A vacuum truck was dispatched to recover the fluids.

Describe Area Affected and Cleanup Action Taken.*
Approximately 30BBLS of oil was released as a result of the oil tank running over. Approximately 30BBLS of oil was recovered via the dispatched vacuum truck. All fluid stayed inside the lined SPCC containment. Once fluids were removed the liner was visually inspected by Devon field staff for any pinholes or punctures and none were found. Based on this inspection there is no evidence that the spill fluids left containment.

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

Signature: Dana DeLaRosa

Printed Name: Dana DeLaRosa

Title: Field Admin Support

E-mail Address: dana.delarosa@dvn.com

Date: 09/27/17 Phone: 575.746.5594

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 9/29/2017 Expiration Date:

Conditions of Approval: Attached ☐

Please inspect liner in question. Provide NMOCD with a concise report of the inspection with affirmation the liner has and will continue to contain liquids.

nOY1727243107

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

Incident ID	nOY1727243107
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? >25 bbls

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Mike Shoemaker via email to Shelly 9/14/17 @ 11:05 PM and Olivia 11:08 PM

Initial Response

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

☒ The source of the release has been stopped.

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

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

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

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

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

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

Printed Name: Dale Woodall Title: EHS Professional

Signature: _____ Date: _____

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nOY1727243107
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

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Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nOY1727243107
District RP	
Facility ID	
Application ID	

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

Printed Name: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 10/10/2022

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nOY1727243107
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

- [ ] Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- [ ] Extents of contamination must be fully delineated.
- [ ] Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 10/10/2022

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

OCD Only

Received by: _____ Date: _____

- [ ] Approved
- [ ] Approved with Attached Conditions of Approval
- [ ] Denied
- [ ] Deferral Approved

Signature: _____ Date: _____

Incident ID	nOY1727243107
District RP	
Facility ID	
Application ID	

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: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 10/10/2022

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

OCD Only

Received by: _____ Date: _____

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: _____ Date: _____

Printed Name: _____ Title: _____

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

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

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

Unit Letter	Section	Township	Range	County

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

Nature and Volume of Release

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Initial Response

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

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

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

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

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

Printed Name: _____ Title: _____

Signature: Kendra DeHoyos Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Ramona Marcus Date: 1/14/2022

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2201348579
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2201348579
District RP	
Facility ID	
Application ID	

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

Printed Name: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 10/10/2022

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2201348579
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

- [ ] Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- [ ] Extents of contamination must be fully delineated.
- [ ] Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 10/10/2022

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

OCD Only

Received by: _____ Date: _____

- [ ] Approved
- [ ] Approved with Attached Conditions of Approval
- [ ] Denied
- [ ] Deferral Approved

Signature: _____ Date: _____

Incident ID	nAPP2201348579
District RP	
Facility ID	
Application ID	

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: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 10/10/2022

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

OCD Only

Received by: _____ Date: _____

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: _____ Date: _____

Printed Name: _____ Title: _____

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	nAPP2208733407
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Devon Energy Production Company	OGRID 6137
Contact Name Dale Woodall	Contact Telephone 575-748-1838
Contact email dale.woodall@dvn.com	Incident # *(assigned by OCD)* nAPP2208733407
Contact mailing address 6488 Seven Rivers Hwy Artesia, NM 88210	

Location of Release Source

Latitude 32.3862562 Longitude -103.4856777
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Gaucho Unit 6	Site Type
Date Release Discovered 03/25/2022	API# *(if applicable)* 30-025-34789

Unit Letter	Section	Township	Range	County
P	17	22S	34E	Lea

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 8 bbls	Volume Recovered (bbls) 7 bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Equipment failure caused by high line pressure on well and the oil dump hung open sending gas to oil tank. Produced water was released to the lined containment and to the pad. Leak was stopped. LO went to make sure dumps started working properly and then called trucks to clean up spill. Estimated that 15 bbls were released. 7 bbls recovered.

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2208733407
District RP	
Facility ID	
Application ID	

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

Initial Response

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

☒ The source of the release has been stopped.

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

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

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

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

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

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

Printed Name: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: _____

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2208733407
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2208733407
District RP	
Facility ID	
Application ID	

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

Printed Name: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 10/10/2022

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2208733407
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

- [ ] Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- [ ] Extents of contamination must be fully delineated.
- [ ] Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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Printed Name: Dale Woodall Title: EHS Professional

Signature: Dale Woodall Date: 10/10/2022

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

OCD Only

Received by: _____ Date: _____

- [ ] Approved
- [ ] Approved with Attached Conditions of Approval
- [ ] Denied
- [ ] Deferral Approved

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2208733407
District RP	
Facility ID	
Application ID	

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.

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Signature: Dale Woodall Date: 10/10/2022

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

OCD Only

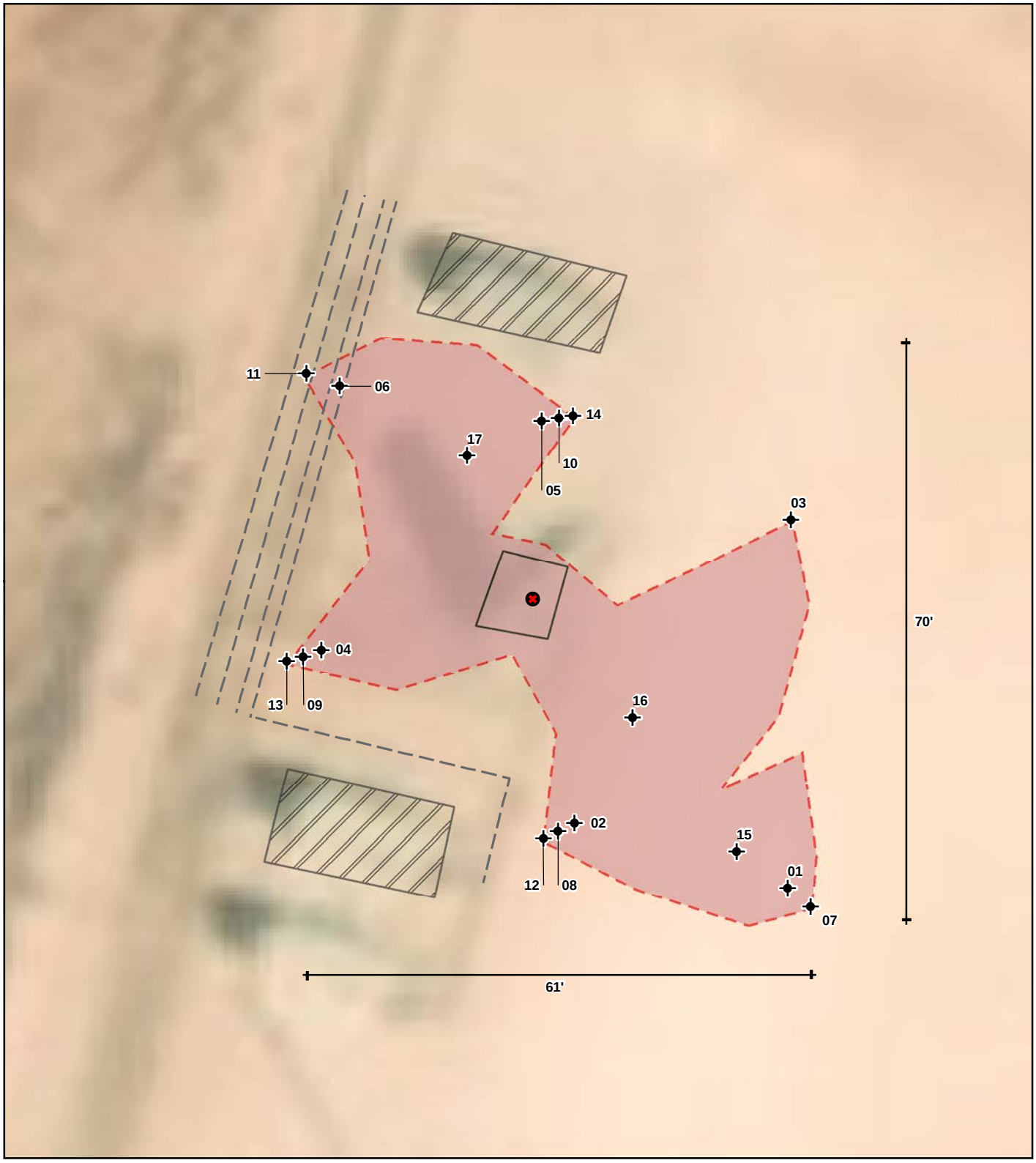
Received by: _____ Date: _____

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: _____ Date: _____

Printed Name: _____ Title: _____

ATTACHMENT 2



Borehole (Prefixed by "BH22-")
Point of Release
Pipeline (Aboveground)
Approximate Release Area (2,079 sq. ft.)
Heater Treater
Separator

VERTEX

0 5 10 ft.

NAD 1983 UTM Zone 13N
Date: May 03/22

Map Center:
Lat: 32.386298,
Long:-103.486213

N

Charcterization Schematic
Gaucho #6H

FIGURE: 1

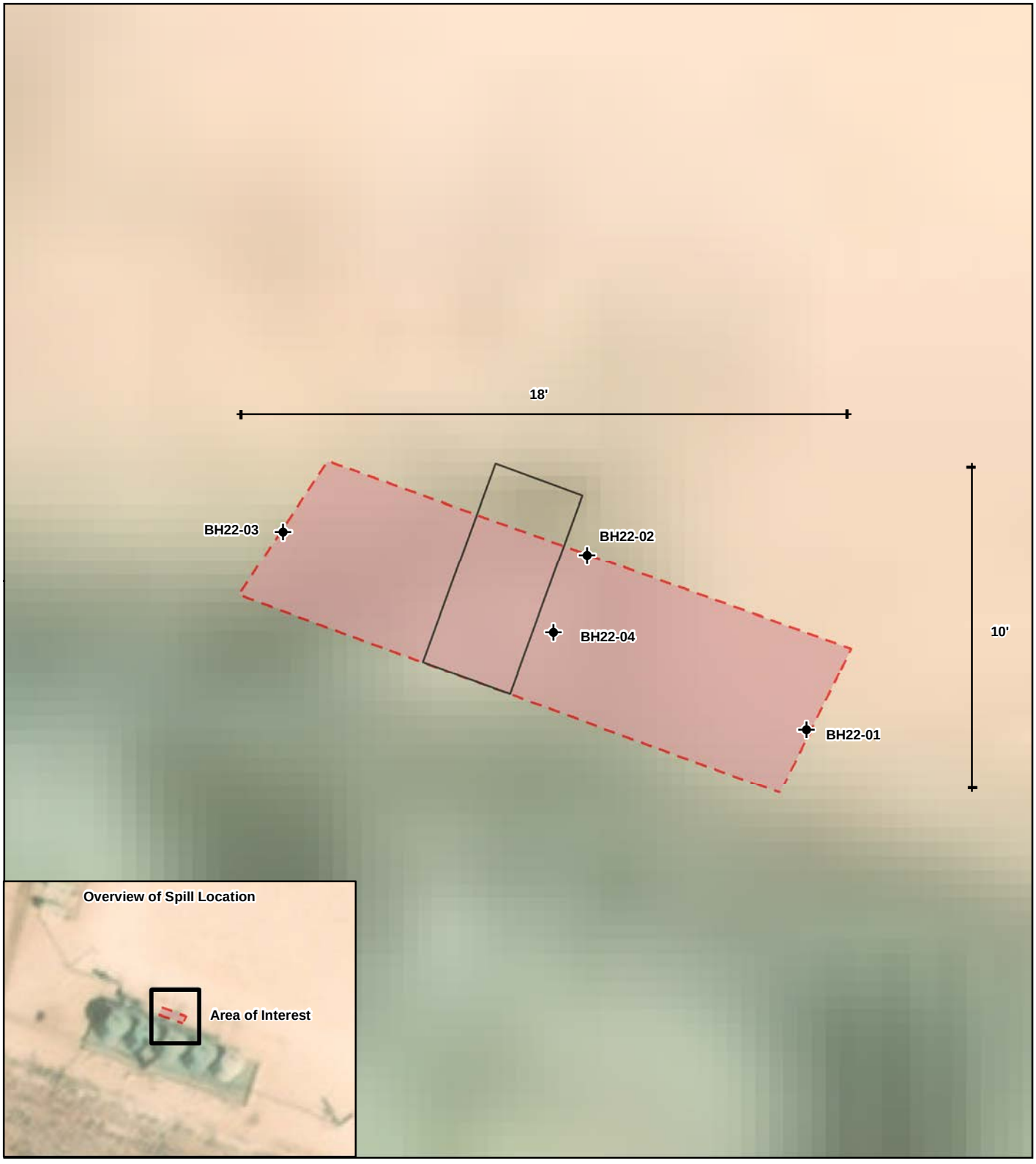
devon

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

Note: Background image from ESRI, 2021. Site features from field survey by Vertex Professionals Services, 2022.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\2022\22E-01101 - Gaucho Unit 6H CTB\Figure 1a Characterization Schematic Gaucho Unit 6H CTB (22E-01101).mxd



VERTEX

0 1.25 2.5 ft.

NAD 1983 UTM Zone 13N
Date: May 05/22

Map Center:
Lat: 32.385984,
Long:-103.486038

N

Charcterization Schematic
Gaucho #6H

FIGURE: 2

devon

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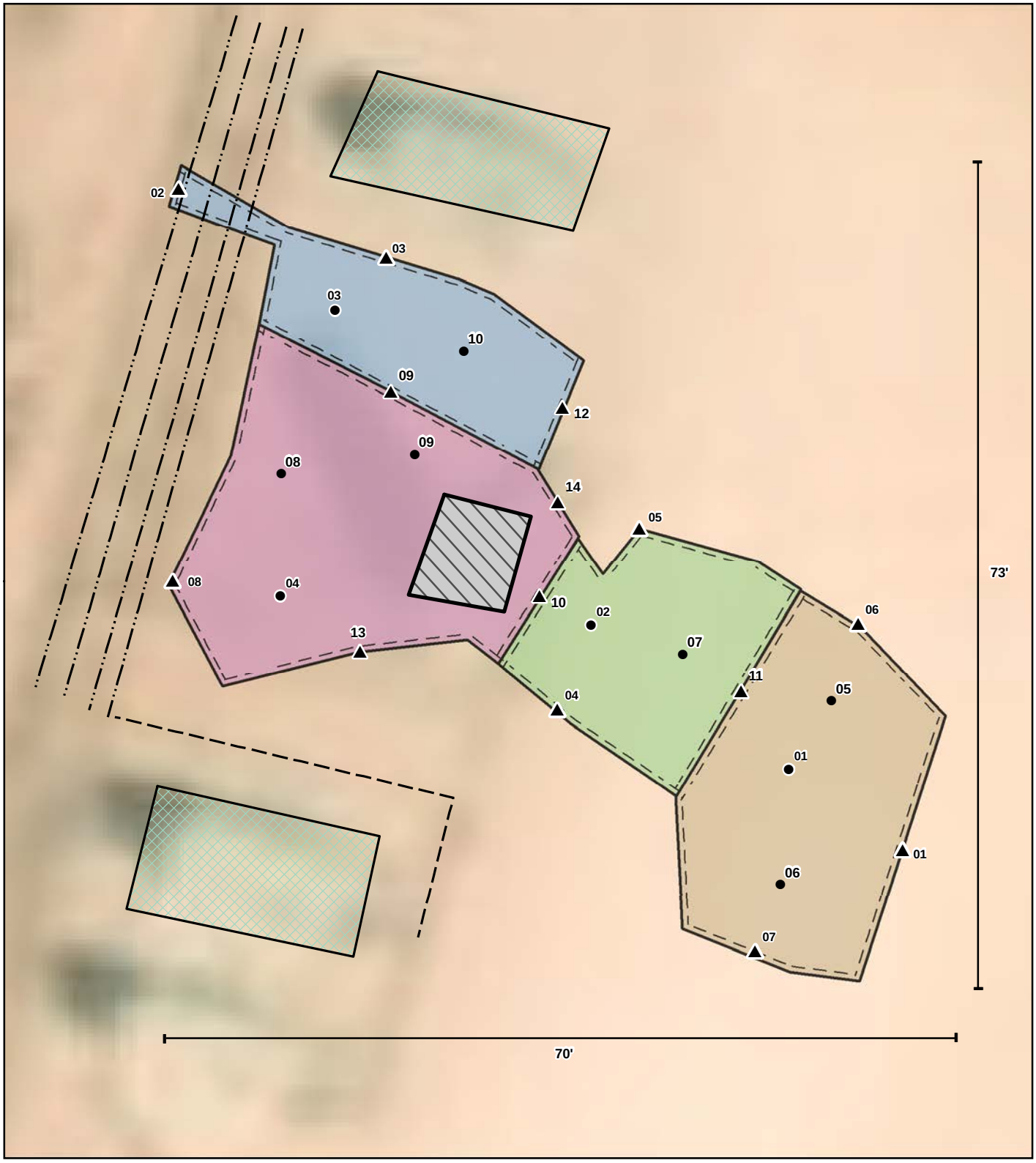
Note: Background image from ESRI, 2021. Site features from field survey by Vertex Professionals Services, 2022.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\2022\22E-01101 - Gaucho Unit 6H CTB\Figure 1b Characterization Schematic Gaucho Unit 6H CTB (nAPP2208733407).mxd



- Base Sample (Prefixed by "BES22-")
- Wall Sample (Prefixed by "WES22-")
- Pipeline
- Pipeline (Above Ground)
- 0.5' Excavation Area (~709 sq. ft.)
- 4' Excavation Area (~ 341 sq. ft.)
- 5' Excavation Area (~ 542 sq. ft.)
- 6' Excavation Area (~ 361 sq. ft.)

VERTEX

0 2.5 5 10 ft.

NAD 1983 UTM Zone 13N
Date: Jul 06/22

Map Center:
Lat: 32.386287,
Long:-103.486198

N

Confirmatory Schematic
nKJ1602628821/nAPP2201348579

FIGURE: 3

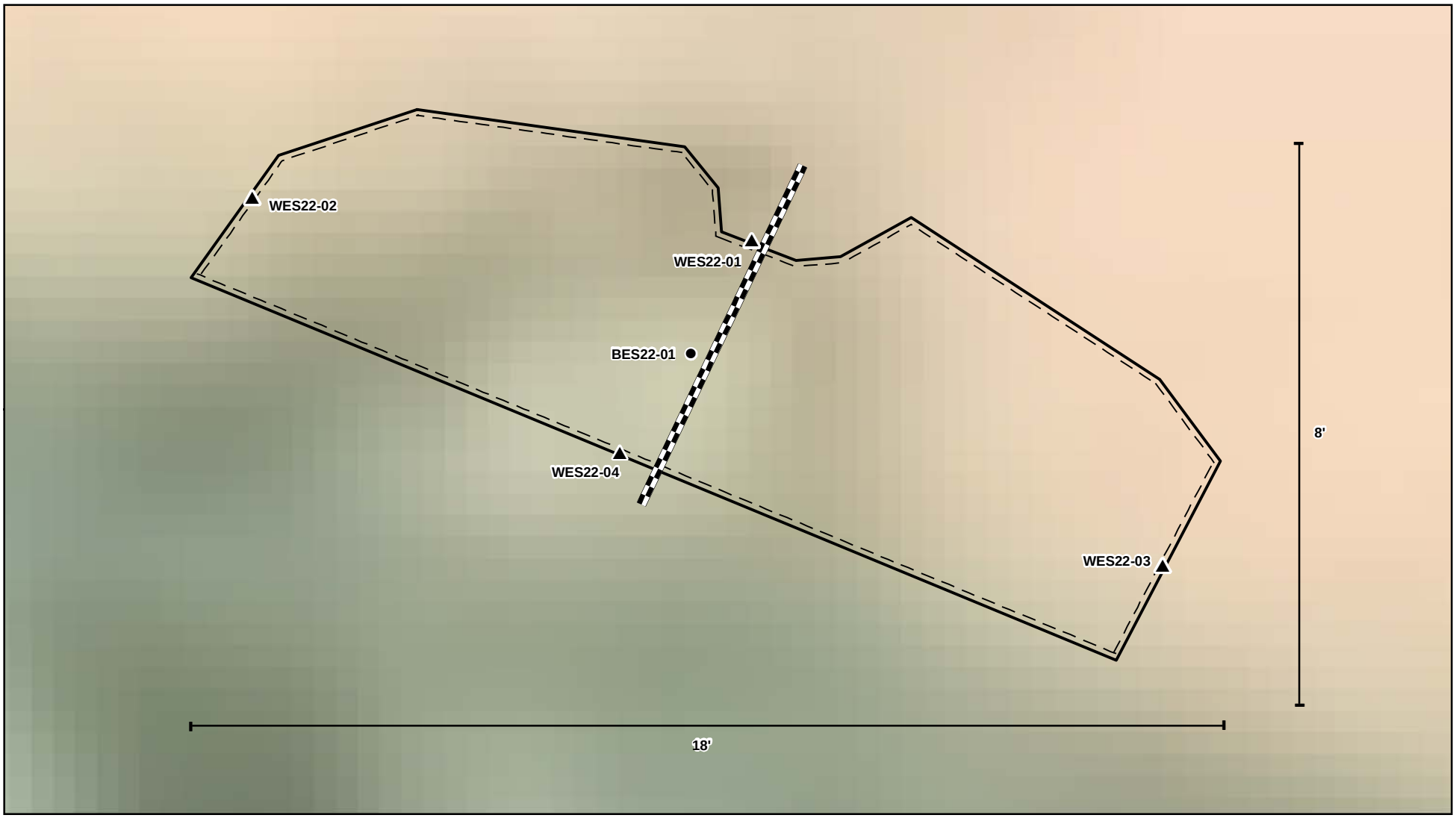
devon

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

Note: Background image from Esri., 2018. Feature locations from GPS, Vertex Professional Services., 2022.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\2022\22E-01101 - Gaucho Unit 6H CTB\Figure 3 Confirmatory Schematic - nKJ1602628821 & nAPP2201348579.mxd



Base Sample
Excavation Area (~82 sq. ft.)
Wall Sample
Stairs

VERTEX

0 0.5 1 2 3 ft.

Map Center:
Lat/Long: 32.385979, -103.486034

NAD 1983 UTM Zone 13N
Date: Jul 06/22

N

Confirmatory Schematic
nAPP2208733407/nOY1727243107

FIGURE:
4

devon

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

Note: Background image from Esri., 2018. Feature locations from GPS, Vertex Professional Services., 2022.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\2022\22E-01101 - Gaucho Unit 6H CTB\Figure 4 Confirmatory Schematic - nAPP2208733407.mxd

ATTACHMENT 3

Client Name: Devon Energy Production Company
Site Name: Gaucho Unit 6 CTB
NMOCD Tracking #: nAPP2208733407
Project #: 22E-01101
Lab Report: 2205058

Table 2. Initial Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH22-01	0	4/29/2022	0	16	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-01	2	4/29/2022	0	8	0	-	-	-	-	-	-	-	-
BH22-02	0	4/29/2022	0	20	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-02	2	4/29/2022	0	9	0	-	-	-	-	-	-	-	-
BH22-03	0	4/29/2022	0	42	178	ND	ND	ND	ND	ND	ND	ND	ND
BH22-03	2	4/29/2022	0	21	0	-	-	-	-	-	-	-	-
BH22-04	0	4/29/2022	0	627	1,187	ND	53.6	**1300**	**18000**	**5400**	**19300**	**24700**	ND
BH22-04	2	4/29/2022	0	74	1,101	-	-	-	-	-	-	-	-
BH22-04	4	4/29/2022	0	329	168	ND	ND	ND	**110**	ND	**110**	**110**	ND
BH22-04	6	4/29/2022	0	257	0	-	-	-	-	-	-	-	-
BH22-04	8	4/29/2022	0	40	0	ND	ND	ND	ND	ND	ND	ND	ND

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

Client Name: Devon Energy Production Company
Site Name: Gaucho Unit 6
NMOCD Tracking #: nAPP2201348579/NKJ1602628821
Project #: 22E-01101
Lab Reports: 2204C83, 2204D50

Table 3. Initial Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH22-01	0	4/27/2022	0	**407**	96	-	-	-	-	-	-	-	-
BH22-01	2	4/27/2022	0	34	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-02	0	4/27/2022	0	-	**1,007**	-	-	-	-	-	-	-	-
BH22-02	2	4/27/2022	0	32	70	-	-	-	-	-	-	-	-
BH22-03	0	4/27/2022	0	**127**	282	ND	ND	ND	12	ND	12	12	96
BH22-03	2	4/27/2022	0	38	0	-	-	-	-	-	-	-	-
BH22-04	0	4/27/2022	0	-	**2,427**	-	-	-	-	-	-	-	-
BH22-04	2	4/27/2022	0	37	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-05	0	4/27/2022	0	**1,040**	0	-	-	-	-	-	-	-	-
BH22-05	2	4/27/2022	0	6	0	-	-	-	-	-	-	-	-
BH22-06	0	4/27/2022	0	**1,520**	4	-	-	-	-	-	-	-	-
BH22-06	2	4/27/2022	0	25	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-07	0	4/27/2022	0	137	0	ND	ND	ND	15	ND	15	15	63
BH22-08	0	4/27/2022	0	-	**842**	-	-	-	-	-	-	-	-
BH22-08	2	4/28/2022	0	58	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-09	0	4/27/2022	0	**1,260**	0	-	-	-	-	-	-	-	-
BH22-09	2	4/28/2022	0	70	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-10	0	4/27/2022	0	**1,340**	264	-	-	-	-	-	-	-	-
BH22-10	2	4/28/2022	0	48	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-11	0	4/27/2022	0	**106**	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-12	0	4/28/2022	0	27	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-13	0	4/28/2022	0	87	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-14	0	4/28/2022	0	69	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-15	0	4/28/2022	0	**1,248**	0	ND	0.36	120	**1100**	**390**	**1220**	**1610**	ND
BH22-15	3	4/28/2022	0	**490**	0	0.16	16.86	**980**	**3600**	**950**	**4580**	**5530**	120
BH22-15	6	4/28/2022	0	97	105	ND	ND	ND	ND	ND	ND	ND	ND
BH22-16	0	4/28/2022	0	-	**1,122**	ND	ND	ND	**390**	**210**	**390**	**600**	370
BH22-16	2	4/28/2022	0	**627**	0	-	-	-	-	-	-	-	-
BH22-16	4	4/28/2022	0	**524**	0	-	-	-	-	-	-	-	-
BH22-16	6	4/28/2022	0	60	0	ND	ND	ND	ND	ND	ND	ND	ND
BH22-17	0	4/28/2022	0	-	**2,169**	ND	1.42	24	**5900**	**3400**	**5924**	**9324**	**3500**
BH22-17	3	4/28/2022	0	-	584	ND	ND	ND	**380**	**210**	**380**	**590**	440
BH22-17	6	4/28/2022	0	50	0	ND	ND	ND	ND	ND	ND	ND	ND

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Bold and green shaded indicates exceedance outside of NMOCD Reclamation Criteria (off-pad)

VERTEX

Client Name: Devon Energy Production Company
Site Name: Gaucho Unit 6H CTB
NMOCD Tracking #: nOY1727243107, nAPP2201348579
Project #: 22E-01101
Lab Reports:2206D53, 2207428

Table 4. Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BES22-01	4	6/23/2022	0	85	376	ND	ND	ND	ND	ND	ND	ND	ND
WES22-01	0-4	6/23/2022	0	84	258	ND	ND	ND	ND	ND	ND	ND	ND
WES22-02	0-4	6/23/2022	0	28	209	ND	ND	ND	ND	ND	ND	ND	ND
WES22-03	0-4	6/23/2022	0	59	314	ND	ND	ND	ND	ND	ND	ND	ND
WES22-04	0-4	7/7/2022	0	37	ND	ND	ND	ND	ND	ND	ND	ND	180

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

Client Name: Devon Energy Corporation
Site Name: Gaucho Unit 6
NMOCD Tracking #: nKJ1602628821/nAPP2201348579
Project #: 22E-01101
Lab Reports: 2206D57, 2204C83, 2207345, 2204D50

Table 5. Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BES22-01	5'	6/21/2022	0	79	36	ND	ND	ND	ND	ND	ND	ND	170
BES22-02	6'	6/21/2022	0	45	30	ND	ND	ND	ND	ND	ND	ND	220
BES22-03	4'	6/21/2022	0	39	ND	ND	ND	ND	ND	ND	ND	ND	230
BES22-04	0.5'	6/22/2022	0	110	409	ND	ND	ND	ND	ND	ND	ND	ND
BES22-05	4'	7/7/2022	0	-	108	ND	ND	ND	ND	ND	ND	ND	ND
BES22-06	4'	7/7/2022	1	-	7	ND	ND	ND	ND	ND	ND	ND	ND
BES22-07	6'	7/7/2022	1	-	278	ND	ND	ND	ND	ND	ND	ND	64
BES22-08	0.5'	7/7/2022	0	23	207	ND	ND	ND	ND	ND	ND	ND	230
BES22-09	0.5'	7/7/2022	0	30	295	ND	ND	ND	ND	ND	ND	ND	190
BES22-10	4'	7/7/2022	0	37	ND	ND	ND	ND	ND	ND	ND	ND	ND
WES22-01	0-5'	6/21/2022	0	162	ND	ND	ND	ND	ND	ND	ND	ND	ND
WES22-02	0-4'	6/21/2022	0	81	ND	ND	ND	ND	ND	ND	ND	ND	ND
WES22-03	0-4'	6/21/2022	0	42	ND	ND	ND	ND	ND	ND	ND	ND	75
WES22-04	0-6'	6/21/2022	0	120	ND	ND	ND	ND	24	ND	24	24	ND
WES22-05	0-6'	6/21/2022	0	65	186	ND	ND	ND	ND	ND	ND	ND	330
WES22-06	0-3'	6/21/2022	0	48	151	ND	ND	ND	ND	ND	ND	ND	220
WES22-07	0-3'	6/21/2022	0	20	41	ND	ND	ND	ND	ND	ND	ND	100
WES22-08	0-0.5'	6/22/2022	0	94	266	ND	ND	ND	ND	ND	ND	ND	ND
WES22-09	0.5-4'	7/7/2022	0	39	51	ND	ND	ND	ND	ND	ND	ND	200
WES22-10	0.5-6'	7/7/2022	0	46	438	ND	ND	ND	ND	ND	ND	ND	190
WES22-11	5-6'	7/7/2022	0	-	427	ND	ND	ND	ND	ND	ND	ND	190
WES22-12	0-4'	7/7/2022	0	23	ND	ND	ND	ND	ND	ND	ND	ND	67
WES22-13	0-0.5'	7/7/2022	0	32	ND	ND	ND	ND	ND	ND	ND	ND	230
WES22-14	0-0.5'	7/7/2022	0	42	60	ND	ND	ND	ND	ND	ND	ND	210

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

ATTACHMENT 4

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	4/22/2022
Site Location Name:	Gaucho Unit 006	Report Run Date:	4/22/2022 7:01 PM
Client Contact Name:	Wes Matthews	API #:	30-025-34789
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	4/22/2022 9:30 AM
Departed Site	4/22/2022 11:30 AM

Field Notes

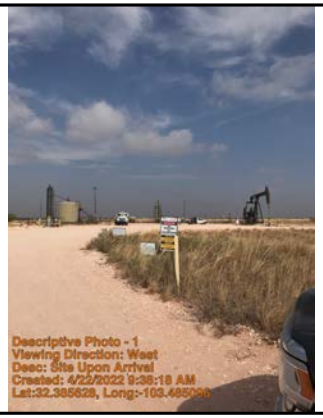
9:37 One Call Flagging

Next Steps & Recommendations

1 Continue with Delineation

Daily Site Visit Report

Site Photos

Viewing Direction: West	**Viewing Direction**: South
	
Site Upon Arrival	Site Upon Arrival
Viewing Direction: Northwest	**Viewing Direction**: Northwest
	
Release At Heater Treater	Release At Heater Treater at Fencing

Daily Site Visit Report

Viewing Direction: South

Release At Primary Tank Containment

Viewing Direction: East

Inside Primary Containment At Tank release.

Viewing Direction: West

Site at departure with white one-call flagging in place.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Jarod Florez

Signature: 

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	4/27/2022
Site Location Name:	Gaucho Unit 006	Report Run Date:	5/2/2022 1:49 PM
Client Contact Name:	Wes Matthews	API #:	30-025-34789
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	4/27/2022 9:30 AM
Departed Site	4/27/2022 3:15 PM

Field Notes

11:33 Arrived on site to begin delineation for the heater treater release

11:32 Collected BH22-01 through BH22-06 at surface and 2’

14:39 BH22-01 was hot on PetroFlag at the surface. Stepped out to BH22-07.
BH22-02 was hot on EC at the surface. Stepped out to BH22-08.
BH22-03 was slightly high on PetroFlag at the surface. Being sent to lab for analysis.
BH22-04 was hot on PetroFlag at the surface. Stepped out to BH22-09.
BH22-05 was hot on PetroFlag at the surface. Stepped out to BH22-10.
BH22-06 was hot on PetrFlag at the surface. Stepped out to BH22-11.
BH22-07 was slightly hot on PetroFlag at the surface. Sent to lab for analysis.
BH22-08 was hot on EC. Will be stepped out tomorrow.
BH22-09 was hot on PetroFlag. Will be stepped out tomorrow.
BH22-10 was hot on PetroFlag. Stepped out tomorrow.
BH22-11 was slightly hot on PetroFlag. Sent to lab for analysis.

Next Steps & Recommendations

Daily Site Visit Report

1 Continue delineation tomorrow.

Daily Site Visit Report

Site Photos

Viewing Direction: Northwest

Release area for heater treater

Viewing Direction: Southwest

Release area

Viewing Direction: Northwest

Sample area for BH22-01

Viewing Direction: Northwest

Sample area for BH22-02

Daily Site Visit Report

Viewing Direction: Southwest	**Viewing Direction**: Northeast
	
Sample area for BH22-03	Sample area for BH22-04
Viewing Direction: Southwest	**Viewing Direction**: Southeast
	
Sample area for BH22-05	Sample area for BH22-06

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Daily Soil Sampling

Client: Client: Devon Energy Corporation

Location: Site: Gaucho Unit 006

Date: (SD: 4/27/22)

Sampling											
		Field Screening							Data Collection		
		Hydrocarbon		Chloride							
Sample ID	Depth (ft)	VOC (PID)	TPH (ppm)	EC Reading (mS/cm)	Temp (°C)	EC Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Photo Taken	Marked on Sketch	Refusal Depth (ft)
BH22-01	0.0	0	407	0.21	23.5	96				✓	
BH22-01	2.0	0	34	0.08	22.9	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		✓	
BH22-02	0.0	0		0.82	22.8	1007				✓	
BH22-02	2.0	0	32	0.18	23.1	70				✓	
BH22-03	0.0	0	127	0.33	23.2	282		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		✓	
BH22-03	2.0	0	38	0.08	23.5	0				✓	
BH22-04	0.0	0		1.84	24	2427				✓	
BH22-04	2.0	0	37	0.12	23.8	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		✓	
BH22-05	0.0	0	1040	0.08	23.5	0				✓	
BH22-05	2.0	0	6	0.04	24.2	0				✓	
BH22-06	0.0	0	1520	0.17	24.3	4				✓	
BH22-06	2.0	0	25	0.08	24.5	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		✓	
BH22-07	0.0	0	137	0.26	27.4	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		✓	
BH22-08	0.0	0		0.82	26.6	842				✓	
BH22-09	0.0	0	1260	0.18	28	0				✓	
BH22-10	0.0	0	1340	0.44	27.3	264				✓	

Daily Soil Sampling

BH22-11	0.0	0	106	0.03	28.1	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		√	

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	4/28/2022
Site Location Name:	Gaucho Unit 006	Report Run Date:	5/2/2022 1:49 PM
Client Contact Name:	Wes Matthews	API #:	30-025-34789
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	4/28/2022 9:05 AM
Departed Site	4/28/2022 3:15 PM

Field Notes

9:05 Arrived on site to continue delineation for heater treater release.

12:46 Collected BH22-08 through BH22-10 at 2'. All clean on all field screening.
Collected BH22-12 through BH22-14 at the surface. All clean on all field screening.
Collected BH22-15 through BH22-17 for vertical delineation. BH22-15 and BH22-17 were clean on all field screening at 6'
BH22-16 is hot on PetroFlag at 2'. Digging it down.

Next Steps & Recommendations

1 Send samples to lab

Daily Site Visit Report

Site Photos

Viewing Direction: West

Sample area for BH22-15

Viewing Direction: Northwest

Sample area for BH22-16

Viewing Direction: Northwest

Sample area for BH22-17

Viewing Direction: Southwest

Sample area for BH22-14

Daily Site Visit Report

Viewing Direction: South	**Viewing Direction**: East
	
Sample area for BH22-13	Sample area for BH22-12

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Daily Soil Sampling

Client: Client: Devon Energy Corporation

Location: Site: Gaucho Unit 006

Date: (SD: 4/29/22)

Sampling											
		Field Screening							Data Collection		
		Hydrocarbon		Chloride							
Sample ID	Depth (ft)	VOC (PID)	TPH (ppm)	EC Reading (mS/cm)	Temp (°C)	EC Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Photo Taken	Marked on Sketch	Refusal Depth (ft)
BH22-08	2.0	0	58	0.10	22.6	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		√	
BH22-09	2.0	0	70	0.07	22.5	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		√	
BH22-10	2.0	0	48	0.07	22.8	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		√	
BH22-12	0.0	0	27	0.06	22.5	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		√	
BH22-13	0.0	0	87	0.05	22.4	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		√	
BH22-14	0.0	0	69	0.03	22.4	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		√	
BH22-15	0.0	0	1248	0.07	22.1	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		√	
BH22-15	3.0	0	490	0.08	22.1	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		√	
BH22-15	6.0	0	97	0.18	22.3	105		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		√	

Daily Soil Sampling

BH22-16	0.0	0		0.90	22.8	1122		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		✓	
BH22-16	2.0	0	627	0.10	22.2	0				✓	
BH22-16	4.0	0	524	0.07	22.9	0				✓	
BH22-16	6.0	0	60	0.06	24	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		✓	
BH22-17	0.0	0		1.61	22.3	2169		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		✓	
BH22-17	3.0	0		0.53	22.9	584		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		✓	
BH22-17	6.0	0	50	0.07	22.1	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		✓	

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	4/29/2022
Site Location Name:	Gaucho Unit 006	Report Run Date:	5/2/2022 1:50 PM
Client Contact Name:	Wes Matthews	API #:	30-025-34789
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	4/29/2022 9:10 AM
Departed Site	4/29/2022 11:30 AM

Field Notes

9:56 Arrived on site to delineate the release outside of the battery

10:17 Collecting BH22-01 through BH22-03 for sides and BH22-04 in the middle for vertical delineation.

11:03 BH22-01 through BH22-03 at 0’ and 2’ are clean on all field screening.

11:03 BH22-04 was vertically delineated down to 8’.

Next Steps & Recommendations

1 Send samples to lab

Daily Site Visit Report

Site Photos

Viewing Direction: Southwest	**Viewing Direction**: Southeast
	
Release area	Release area

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Daily Soil Sampling

Client: Client: Devon Energy Corporation

Location: Site: Gaucho Unit 006

Date: (SD: 4/29/22)

Sampling											
		Field Screening							Data Collection		
		Hydrocarbon		Chloride							
Sample ID	Depth (ft)	VOC (PID)	TPH (ppm)	EC Reading (mS/cm)	Temp (°C)	EC Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Photo Taken	Marked on Sketch	Refusal Depth (ft)
BH22-01	0.0	0	16	0.07	22.1	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		✓	
BH22-01	2.0	0	8	0.07	22.1	0				✓	
BH22-02	0.0	0	20	0.10	22.4	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		✓	
BH22-02	2.0	0	9	0.07	21.8	0				✓	
BH22-03	0.0	0	42	0.21	21.6	178		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		✓	
BH22-03	2.0	0	21	0.06	21.6	0				✓	
BH22-04	0.0	0	627	0.90	21.3	1187		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		✓	
BH22-04	2.0	0	740	0.84	21.3	1101				✓	
BH22-04	4.0	0	329	0.20	21.5	168		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		✓	
BH22-04	6.0	0	257	0.04	21.7	0				✓	
BH22-04	8.0	0	40	0.03	21.3	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		✓	

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	5/18/2022
Site Location Name:	Gaucho Unit 006	Report Run Date:	5/18/2022 7:51 PM
Client Contact Name:	Wes Matthews	API #:	30-025-34789
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	5/18/2022 11:00 AM
Departed Site	5/18/2022 11:45 AM

Field Notes

11:04 On location. Completed safety paperwork, scouting for staining

Next Steps & Recommendations

1 Continue with sampling

Daily Site Visit Report

Site Photos

Viewing Direction: Southeast

Discoloration in battery area

Viewing Direction: North

Discoloration by heater treater

Viewing Direction: Southwest

Surface staining along surface lines

Viewing Direction: West

More staining around heater treater

Daily Site Visit Report

Viewing Direction: Southwest	**Viewing Direction**: South
	
Disturbed ground around marked buried gas line	Small stain at coordinates

Viewing Direction: West	**Viewing Direction**: North
	
Pad behind containment	Pad east of battery

Daily Site Visit Report

Viewing Direction: Northwest

Pad

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Sally Carttar

Signature: 

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	6/16/2022
Site Location Name:	Gaucho Unit 006	Report Run Date:	6/16/2022 11:13 PM
Client Contact Name:	Wes Matthews	API #:	30-025-34789
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	6/16/2022 7:25 AM
Departed Site	6/16/2022 3:15 PM

Field Notes

12:55 Completed safety paperwork on arrival. Met Stan Mobley, Bryce Blaylock, and Jerry from Devon and discussed excavation hazards and equipment that cannot move. Bryce Blaylock designated PIC for Devon. Fences will be removed as needed for work and must be replaced at the end of the day. Contractor arrived and we conducted a safety meeting about the work. We all did another walk around the work areas together and confirmed the excavation plan. I swept the work area with the magnetic locator and the contractor did a separate sweep. Material in immediate proximity to equipment will be removed by hand to avoid the risk of line strikes. Equipment that protrudes close to dig area (ground rods, valves) will be marked with T posts to further improve visibility for equipment and personnel.

11:37 Release at tank battery will have ground wire exposed by hand. Exposed wire will be the south boundary of excavation. Excavation sidewalls up to 4 feet bgs can be vertical. Excavations beyond 4 feet bgs will require sloped sidewalls.

13:08 Devon requested staining around pump jack be covered with chipped rock. A couple inches of chipped rock over the treater area once remediation is completed will blend to the surrounding area.

13:32 Hand dig crew arriving the following day. Started excavation at southeast corner of treater release, outside of fence. Base sample and south excavation wall sample field screening results were below NMOCD strictest criteria for chloride and TPH.

13:43 Checked containment walls and liner for damage. Walls and liner appear sound. Patches on liner appear sealed.

Daily Site Visit Report

15:05 Uncovered underground cable at west end of excavation. Operator stopped excavation as soon as marking tape above cable was spotted. Spotter dug sand away from cable enough to identify. Some insulation may have been scuffed from outside of cable by backhoe, but it was difficult to determine. Operator did not feel resistance through backhoe.

15:12 Upon identifying the cable, the PIC Bryce Blaylock was contacted and informed of the cable. Work was stopped while he contacted people. Bryce called back and asked us to terminate operations for the day. A locator was scheduled be on site first thing the following morning to determine the status of the underground cable.

15:11 The excavation was fenced off prior to departing the site.

Next Steps & Recommendations

1 Meet with PIC and line locators tomorrow morning and determine status of underground cable.

Daily Site Visit Report

Site Photos

Viewing Direction: Northeast	**Viewing Direction**: East
	
East edge of pad facing northeast. Containment berm and liner set up on northeast corner of pad for contaminated material.	West of release point facing east. Will hand-dig close to equipment.

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: West
	
South of release point facing north. Will hand-dig close to equipment.	East of treater release facing west. Base and sidewall of initial excavation outside fence field screened clean.

Viewing Direction: West	**Viewing Direction**: West
	
East of treaters facing west into excavation. Exposed unmarked buried cable.	East of treaters facing west in excavation. Exposed unmarked buried cable.

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: South
	
East of treaters facing north into excavation. Exposed unmarked buried cable.	East of treaters facing south into excavation. Exposed unmarked buried cable.
Viewing Direction: East	**Viewing Direction**: East
	
East of treaters facing east into excavation. Exposed unmarked buried cable with marker tape.	East of treaters facing east. Excavation stopped for the day.

Daily Site Visit Report

Viewing Direction: West	**Viewing Direction**: West
	
East of treaters facing west. Excavation stopped for the day.	East of treater release facing west. Starting excavation outside of fence.
Viewing Direction: Northeast	**Viewing Direction**: South
	
Southeast of treaters facing northeast. Fenced excavation for the night.	North of treater release facing southwest. Starting excavation outside of fence.

Daily Site Visit Report

Viewing Direction: Southeast	**Viewing Direction**: Northwest
	
West corner of containment facing southeast. Condition of liner adequate.	South corner of containment facing northwest. Liner condition adequate.
Viewing Direction: West	**Viewing Direction**: Northwest
	
East corner of containment facing west-southwest. Liner in adequate condition.	East of battery release facing northwest. Will hand-dig ground wire prior to mechanical excavation.

Daily Site Visit Report

Viewing Direction: Southeast	**Viewing Direction**: Southeast
	
West of battery release facing southeast. Will hand-dig ground wire prior to mechanical excavation.	West edge of pad facing southeast. Will hand-dig under and around lines.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Lakin Pullman

Signature:

Daily Soil Sampling

Client: Client: Devon Energy Corporation

Location: Site: Gaucho Unit 006

Date: (SD: 6/16/22)

Sampling											
		Field Screening							Data Collection		
		Hydrocarbon		Chloride							
Sample ID	Depth (ft)	VOC (PID)	TPH (ppm)	EC Reading (mS/cm)	Temp (°C)	EC Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Photo Taken	Marked on Sketch	Refusal Depth (ft)
BES22-01	4.0		63	0.31	34.7	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	√	√	
WES22-01	4.0		68	0.40	34.7	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)	√	√	

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	6/17/2022
Site Location Name:	Gaucho Unit 006	Report Run Date:	6/18/2022 1:07 AM
Client Contact Name:	Wes Matthews	API #:	30-025-34789
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	6/17/2022 7:27 AM
Departed Site	6/17/2022 5:09 PM

Field Notes

9:45 Completed safety paperwork on arrival. Met with Stan Mobley, Brice Blaylock, and Jerry Smith with Devon, and Lupe with MMX to discuss buried cable. Cable was confirmed to be abandoned and NOT energized. Plan is to excavate on either side and expose the line by hand.

9:48 PIC, Brice Blaylock, attempted to schedule hydrovac but none were available. Proceeded with original hand-dig plan. Work area was swept with magnetic locator again for confirmation.

9:47 Confirmed with Devon personnel that chip rock will only be used to cover staining around wellhead at end of project.

14:14 One truck available to haul material to Northern Delaware Basin for disposal. Hauled approximately 60 yards of material away due to slow turnaround at disposal. Additional liner and containment was installed northeast corner to stockpile material over the weekend.

11:09 Found break in abandoned cable while clearing soil. Excavator was at least 2 feet from the cable, so break was determined to be historical.

16:31 Excavator removed material on either side of buried cable and spotter uncovered cable with shovel. Excavation outside the fence halted when volume of contaminated material was close to exceeding storage space.

16:33 Area under pipes on west edge of release initially hand-excavated to 1 foot bgs. Base excavation sample BH22-02 field screening results exceeded strictest threshold for TPH. Continued to 2 feet bgs. Field screening results at 2 feet bgs met NMOCD strictest criteria for TPH and chloride.

Daily Site Visit Report

16:40 Hand excavation under pipes at west edge of pad will need to continue south and southeast to connect to the area of mechanical excavation between the treaters. The stained area around the equipment at the release point will be hand-excavated to at least 6 inches bgs and reevaluated. Excavation around treater and anchors just leave several feet of stable soils horizontally to maintain stability and minimize slumping.

16:41 At the tank battery release. The ground wire next to the containment wall needs to be exposed via hand-excavation prior to any mechanical work. The ground wire will be the southwest boundary of the excavation.

17:07 Placed contaminated material on liner for the weekend. Fenced excavations prior to leaving.

Next Steps & Recommendations

1 Continue treater release excavation. Start battery excavation.

Daily Site Visit Report

Site Photos

Viewing Direction: Northeast	**Viewing Direction**: South
	
East edge of pad facing east-northeast. Loading contaminated material stockpiled from previous day.	West edge of pad facing south. Hand excavated to 1 foot bgs and continued to 2 feet bgs.

Daily Site Visit Report

Viewing Direction: Northeast	**Viewing Direction**: Southwest
	
West edge of pad facing northeast. Hand-excavated under lines to clean soil at 2 feet bgs.	West edge of pad facing southwest. Hand-excavated under lines to clean soil at 2 feet bgs.
Viewing Direction: South	**Viewing Direction**: Northeast
	
West edge of pad facing southeast. Excavation will continue southeast to encompass stained area around treater.	South of treater facing northeast. Will need to hand-excavate stained material around equipment.

Daily Site Visit Report

Viewing Direction: West

Northeast of treater facing west. Excavation between treaters and equipment can be completed mechanically.

Viewing Direction: Northeast

East of treaters facing northeast. Excavation outside fence will continue northeast.

Viewing Direction: South

East of treater facing south. Excavation outside fence will continue northeast.

Viewing Direction: East

Northeast corner of pad facing northeast. Stored contaminated on liner in containment for the weekend.

Daily Site Visit Report

Viewing Direction: Southwest	**Viewing Direction**: Northeast
	
East of treaters facing southwest. Fenced 4-foot excavation prior to leaving.	West of treater facing northeast. Hand removed material from around pipes on west edge.

Viewing Direction: Northeast	**Viewing Direction**: Northeast
	
West of release point facing northeast. Fenced 2-foot excavation.	Inside excavation facing northeast. Underground cable severed prior to uncovering.

Daily Site Visit Report

Viewing Direction: Southeast

Inside excavation facing southwest. Underground cable severed prior to uncovering.

Viewing Direction: East

Inside excavation facing east. Underground cable severed prior to uncovering.

Viewing Direction: Northeast

East of treaters facing northeast. Mechanical excavation west of buried cable, with exposure by hand.

Viewing Direction: Northwest

East of treaters facing northwest. Expanded excavation east of fence.

Daily Site Visit Report

Viewing Direction: Northeast	**Viewing Direction**: Northeast
	
West of release point facing northeast. Hand excavation underneath pipes on west edge.	East edge of pad facing northeast. Installed additional liner and containment.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Lakin Pullman

Signature:

Daily Soil Sampling

Client: Client: Devon Energy Corporation

Location: Site: Gaucho Unit 006

Date: (SD: 6/17/22)

Sampling											
		Field Screening							Data Collection		
		Hydrocarbon		Chloride							
Sample ID	Depth (ft)	VOC (PID)	TPH (ppm)	EC Reading (mS/cm)	Temp (°C)	EC Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Photo Taken	Marked on Sketch	Refusal Depth (ft)
BES22-02	1.0			0.06	30	0			✓	✓	
BES22-02	4.0		82	0.07	27.7	0			✓	✓	
BES22-03	4.0		54	0.44	34.5	0			✓	✓	
BES22-04	4.0		57	0.61	37.5	67			✓	✓	
WES22-02	1.0		1200	0.24	33	0			✓	✓	
WES22-03	4.0		45	0.25	35.1	0			✓	✓	
WES22-04	1.0		41	0.06	37	0			✓	✓	

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	
Site Location Name:	Gaucho CTB	Report Run Date:	6/21/2022 2:26 AM
Client Contact Name:	Wes Matthews	API #:	
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	
Departed Site	6/20/2022 5:30 PM

Field Notes

14:31 Continue excavation

14:43 Sampling wall areas to finish horizontal extents

Next Steps & Recommendations

1. Finishing hauling out contamination
2. Confirmation sampling

Daily Site Visit Report

Site Photos

Viewing Direction: West	**Viewing Direction**: Southeast
	
Area between separator and heater	Pad area
Viewing Direction: West	**Viewing Direction**: South
	
Excavation area	Excavation near containment

Daily Site Visit Report

Viewing Direction: Southwest

Excavation near containment

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Monica Peppin

Signature:

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	6/21/2022
Site Location Name:	Gaucho Unit 006	Report Run Date:	6/22/2022 9:04 PM
Client Contact Name:	Wes Matthews	API #:	30-025-34789
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	6/21/2022 9:00 AM
Departed Site	6/21/2022 3:20 PM

Field Notes

11:15 Arrived on site to continue remediation for heater treater and battery releases.

11:16 Collected BH22-02 through BH22-08 for the heater treater. All are clean on all field screening and will be sent to lab for confirmation.

11:16 Collected BH22-10 through BH22-13 on the walls of the battery excavation. All are clean on all field screening and will be sent to lab for confirmation.

11:34 Having dirty crew hand excavate around the heater treater 6”

12:28 Collected BH22-14 and BH22-15 on the north and south walls of the east side of the excavation. Clean on all field screening

13:45 180 yards of contaminants hauled out

Next Steps & Recommendations

1 Complete hand excavation and confirmation sampling tomorrow

Daily Site Visit Report

Site Photos

Viewing Direction: Southwest	**Viewing Direction**: Northwest
	
Current excavation for battery	Current excavation for heater treater
Viewing Direction: Northwest	**Viewing Direction**: Southwest
	
Sample area for BH22-14	Sample area for BH22-15

Daily Site Visit Report

Viewing Direction: Southwest	**Viewing Direction**: Southeast
	
Hand excavation around heater treater	6” hand excavation around heater treater

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Daily Soil Sampling

Client: Client: Devon Energy Corporation

Location: Site: Gaucho Unit 006

Date: (SD: 6/23/22)

Sampling											
		Field Screening							Data Collection		
		Hydrocarbon		Chloride							
Sample ID	Depth (ft)	VOC (PID)	TPH (ppm)	EC Reading (mS/cm)	Temp (°C)	EC Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Photo Taken	Marked on Sketch	Refusal Depth (ft)
BES22-01	2.0	0	312	0.13	26.8	0				✓	
WES22-01	2.0	0	55	0.35	26.7	160				✓	
WES22-02	2.0	0	36	0.31	26.5	111				✓	
WES22-03	2.0	0	41	0.12	26.9	0				✓	

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	6/22/2022
Site Location Name:	Gaucho Unit 006	Report Run Date:	6/22/2022 8:57 PM
Client Contact Name:	Wes Matthews	API #:	30-025-34789
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	6/22/2022 11:00 AM
Departed Site	

Field Notes

10:51 On site to complete a liner inspection.

10:55 There does not appear to be any damage on the outside of the wall for the containment.

10:56 Inside of walls do not appear to have any significant damage

11:02 Floor of the liner does not appear to have any significant damages through the battery. It is just heavily stained. There does not appear to be any evidence of a breach around the walls.

Next Steps & Recommendations

1 Write closure report for liner inspection.

Daily Site Visit Report

Site Photos

Viewing Direction: West	**Viewing Direction**: Southeast
	
Outside wall dyke on north side.	Inside wall east side
Viewing Direction: Northwest	**Viewing Direction**: West
	
Inside wall north side	Floor of liner south side

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: South
	
Floor of liner west side	Floor of liner between water tank 1 and oil tank 3 on west side

Viewing Direction: North	**Viewing Direction**: North
	
Floor of liner between oil tanks 2 and 3	Floor of liner between oil tanks 2 and 4

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: East
	
Floor of liner between oil tank 4 and water tank on east side	Outside wall dyke north side
Viewing Direction: North	**Viewing Direction**: East
	
Outside wall dyke west side	Outside wall dyke south side

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: North
	
Outside wall dyke south side	Outside wall dyke east side
Viewing Direction: West	**Viewing Direction**: North
	
Floor of the liner south side	Floor of the liner east side

Daily Site Visit Report

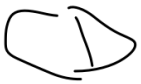
Viewing Direction: West

Floor of liner north side

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Daily Soil Sampling

Client: Client: Devon Energy Corporation

Location: Site: Gaucho Unit 006

Date: (SD: 6/23/22)

Sampling											
		Field Screening							Data Collection		
		Hydrocarbon		Chloride							
Sample ID	Depth (ft)	VOC (PID)	TPH (ppm)	EC Reading (mS/cm)	Temp (°C)	EC Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Photo Taken	Marked on Sketch	Refusal Depth (ft)
BES22-01	4.0	0	85	0.38	22.7	376		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		√	
WES22-01	2.0	0	84	0.31	23.1	258		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		√	
WES22-02	2.0	0	28	0.27	22.9	209		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		√	
WES22-03	2.0	0	59	0.34	22.8	314		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (EPA 300.0), TPH (EPA SW-846 Method 8015M)		√	

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	7/7/2022
Site Location Name:	Gaucho Unit 006	Report Run Date:	7/7/2022 11:25 PM
Client Contact Name:	Wes Matthews	API #:	30-025-34789
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	7/7/2022 7:59 AM
Departed Site	7/7/2022 2:41 PM

Field Notes

10:38 Completed safety paperwork on arrival, and attended tailgate meeting when contractor arrived.

14:13 Swept excavations with magnetic locator prior to collecting soil samples.

14:18 Collected additional confirmation soil samples from base and sidewalls of excavations around treater release point. Confirmation samples were field screened for chloride and TPH. Samples were packaged for laboratory analysis. MMX proceeded to backfill the excavation outside the fence once field screening results passed NMOCD strictest criteria.

14:24 MMX used water truck to wet soil prior to backfill, and packed material with roller after placement to maximize compaction. Multiple lifts of backfill were placed and compacted.

Next Steps & Recommendations

1 Check on progress of backfill.

Daily Site Visit Report

Site Photos

Viewing Direction: West	**Viewing Direction**: Northwest
	
Northeast of battery facing west. Excavations completed prior to arrival.	Northeast of battery facing northwest. Excavations completed prior to arrival.
Viewing Direction: West	**Viewing Direction**: Southwest
	
South of wellhead facing west. MMX backfilled outside fence.	West of wellhead facing southwest. MMX backfilled outside fence.

Daily Site Visit Report

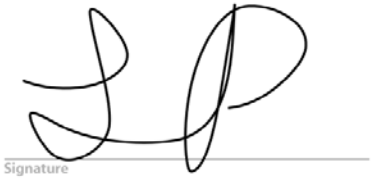
Viewing Direction: Southwest	**Viewing Direction**: Southeast
	
West of wellhead facing southwest. Water truck used to wet soil.	Northeast of release point facing southeast. Roller used to compact soil.
Viewing Direction: Northeast	**Viewing Direction**: Northwest
	
South of release point facing northeast. Roller used to compact soil.	Northeast of tanks facing west. Prior to leaving site.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Lakin Pullman

Signature:



Daily Soil Sampling

Client: Client: Devon Energy Corporation

Location: Site: Gaucho Unit 006

Date: (SD: 7/7/22)

Sampling											
		Field Screening							Data Collection		
		Hydrocarbon		Chloride							
Sample ID	Depth (ft)	VOC (PID)	TPH (ppm)	EC Reading (mS/cm)	Temp (°C)	EC Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Photo Taken	Marked on Sketch	Refusal Depth (ft)
BES22-05	4.0	0		0.35	27.9	108		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	√	√	
BES22-06	4.0	1		0.28	27.9	7		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	√	√	
BES22-07	6.0	1		0.48	28.3	278		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	√	√	
BES22-08	0.5	0	23	0.56	32.6	207		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	√	√	
BES22-09	0.5	0	30	0.57	30.9	295		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	√	√	
BES22-10	4.0	0	37	0.27	30.4	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	√	√	
WES22-09	4.0	0	39	0.41	31.2	51		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	√	√	
WES22-10	6.0	0	46	0.57	27.6	438		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	√	√	
WES22-11	6.0	0		0.58	28.2	427		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	√	√	

Daily Soil Sampling

WES22-12	4.0	0	23	0.37	32.3	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	√	√	
WES22-13	0.5	0	32	0.39	32.1	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	√	√	
WES22-14	0.5	0	42	0.44	32	60		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	√	√	

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	7/8/2022
Site Location Name:	Gaucho CTB	Report Run Date:	7/8/2022 1:40 AM
Client Contact Name:	Wes Matthews	API #:	
Client Contact Phone #:	(575) 748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	7/8/2022 12:33 PM
Departed Site	7/8/2022 1:42 PM

Field Notes

13:04 Completed safety paperwork on arrival. Had safety meeting with crew working on site.

13:05 Collected remaining wall excavation confirmation sample from excavation next to battery.

13:07 MMX completed backfill of excavation outside fence and moved on to backfill excavation next to tank battery. MMX proceeded to backfill within fence around treater and under pipes.

Next Steps & Recommendations

1 Complete backfill.

Daily Site Visit Report

Site Photos

Viewing Direction: Southeast	**Viewing Direction**: East
	
North of tanks facing southeast. Backfilled excavation next to containment, needs final compaction.	South of treater facing east. Completed backfill and compaction outside fence.

Daily Site Visit Report

Viewing Direction: Northwest

North of tanks facing northwest. Backfilled excavation next to containment, needs final compaction.

Viewing Direction: Southeast

Northwest of treater facing southeast. Backfill in progress.

Viewing Direction: Northeast

Northwest of treater facing northeast.. Backfill in progress.

Viewing Direction: South

North of treater facing south. Backfill in progress.

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: Southwest
	
Northwest of treater facing east. Backfill in progress.	Northeast of treater facing southwest. Backfill in progress.
Viewing Direction: West	**Viewing Direction**: North
	
East of wellhead facing west. Completed backfill and compaction outside fence.	South of treaters facing north. Completed backfill and compaction outside fence.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Lakin Pullman

Signature:

Daily Soil Sampling

Client: Client: Devon Energy Corporation

Location: Site: Gaucho Unit 006

Date: (SD: 7/8/22)

Sampling											
		Field Screening							Data Collection		
		Hydrocarbon		Chloride							
Sample ID	Depth (ft)	VOC (PID)	TPH (ppm)	EC Reading (mS/cm)	Temp (°C)	EC Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Photo Taken	Marked on Sketch	Refusal Depth (ft)
WES22-04	4.0	0	37	0.38	36.5	0		BTEX (EPA SW-846 Method 8021B/8260B), Chloride (SW-4500 Cl), TPH (EPA SW-846 Method 8015M)	√	√	

ATTACHMENT 5

New Mexico Office of the State Engineer
Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	CP 00865 POD1	2	2	3	20	22S	34E	641845	3583118

Driller License: 421 **Driller Company:** GLENN'S WATER WELL SERVICE

Driller Name: GLENN, CLARK A."CORKY" (LD)

Drill Start Date:	08/22/1997	**Drill Finish Date:**	08/29/1997	**Plug Date:**	
Log File Date:	09/04/1997	**PCW Rcv Date:**	10/18/2013	**Source:**	Shallow
Pump Type:	SUBMER	**Pipe Discharge Size:**	2.875	**Estimated Yield:**	50 GPM
Casing Size:	6.63	**Depth Well:**	885 feet	**Depth Water:**	605 feet

Water Bearing Stratifications:	Top	Bottom	Description
	738	870	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	734	885

Meter Number:	800	**Meter Make:**	SEAMETRICS
Meter Serial Number:	062018004760	**Meter Multiplier:**	1.0000
Number of Dials:	9	**Meter Type:**	Diversion
Unit of Measure:	Barrels 42 gal.	**Return Flow Percent:**	
Usage Multiplier:		**Reading Frequency:**	Quarterly

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
08/27/1999	1999	12170	A	fm		0	
09/27/1999	1999	18665	A	fm		1.993	
07/10/2000	2000	23573	A	mb	Initial reading Trn# 184947	0	
09/01/2000	2000	792	A	mb	Initial reading Trn# 189706	0	
10/09/2000	2000	3703	A	mb	Final reading Trn# 189706	0.893	
11/02/2000	2000	33323	A	mb	Final reading Trn# 184947	2.992	
07/23/2001	2001	35004	A	jw		9.606	
08/14/2001	2001	35550	A	jw		0.168	
09/16/2003	2004	44365	A	RPT		0	
02/13/2004	2004	54105	A	RPT		2.989	
05/28/2013	2013	301812	A	RPT	Initial reading	0	
10/07/2013	2013	494174	A	RPT		24.794	
11/11/2013	2013	627789	A	RPT		17.222	
01/01/2014	2014	775387	A	ap		1902.439	
04/01/2014	2014	1150295	A	ap		4832.312	
10/01/2014	2014	1395310	A	ap		3158.078	
01/01/2015	2015	2252908	A	ap		11053.861	
03/31/2015	2015	2496573	A	ap		3140.678	

06/01/2015	2015	2602349	A	ap	1363.381
06/30/2015	2015	2632913	A	ap	393.949
07/28/2015	2015	2657713	A	ap	319.655
08/31/2015	2015	2675935	A	ap	234.869
09/30/2015	2015	2685784	A	ap	126.947
10/30/2015	2015	2777793	A	ap	1185.934
11/30/2015	2015	2813732	A	ap	463.230
04/30/2016	2015	2902402	A	ap	1142.897
06/01/2016	2016	2949111	A	ap	602.048
07/30/2016	2016	3039470	A	ap	1164.667
09/01/2016	2016	3112223	A	ap	937.737
09/30/2016	2016	3233850	A	ap	1567.690
10/31/2016	2016	3310726	A	ap	990.880
12/01/2016	2016	3400370	A	ap	1155.451
12/31/2016	2016	3504124	A	ap	1337.319
02/01/2017	2017	3505049	A	ap	11.923
03/02/2017	2017	3549664	A	ap	575.057
03/31/2017	2017	3670149	A	ap	1552.971
05/01/2017	2017	3799022	A	ap	1661.086
05/31/2017	2017	3857500	A	ap	753.742
07/31/2017	2017	3902575	A	ap	580.986
10/31/2017	2017	4063882	A	ap	2079.139
11/30/2017	2017	4191565	A	ap	1645.748
12/30/2017	2017	4326964	A	ap	1745.202
01/30/2018	2018	4423832	A	ap	1248.563
02/28/2018	2018	4511456	A	ap	1129.414
03/30/2018	2018	4547266	A	ap	461.567
04/30/2018	2018	4658071	A	ap	1428.202
06/01/2018	2018	4766177	A	ap	1393.414
06/29/2018	2018	4790998	A	ap	319.926
07/31/2018	2018	4790998	A	ap	0
08/13/2018	2018	4791140	A	ap	1.830
08/13/2018	2018	0	A	ap	0
08/30/2018	2018	73947	A	ap	953.127
09/30/2018	2018	201617	A	ap	1645.580
11/30/2018	2018	443361	A	ap	3115.917

x

**YTD Meter Amounts:	Year	Amount
	1999	1.993
	2000	3.885
	2001	9.774
	2004	2.989
	2013	42.016
	2014	9892.829
	2015	19425.401
	2016	7755.792
	2017	10605.854
	2018	11697.540

2019	0
2020	0

Meter Number:	806	**Meter Make:**	MASTER
Meter Serial Number:	1746627	**Meter Multiplier:**	100.0000
Number of Dials:	6	**Meter Type:**	Diversion
Unit of Measure:	Gallons	**Return Flow Percent:**	
Usage Multiplier:		**Reading Frequency:**	

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
01/01/1999	1999	12165	A	fm		0	
01/15/1999	1999	21665	A	fm		2.915	

**YTD Meter Amounts:	Year	Amount
	1999	2.915

Meter Number:	807	**Meter Make:**	SEAMETRICS
Meter Serial Number:	032019000837	**Meter Multiplier:**	1.0000
Number of Dials:	8	**Meter Type:**	Diversion
Unit of Measure:	Barrels 42 gal.	**Return Flow Percent:**	
Usage Multiplier:		**Reading Frequency:**	Monthly

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
11/14/1999	1999	19858	A	fm		0	
12/14/1999	1999	21411	A	fm		0.477	
01/02/2019	2018	556195	A	RPT		0	
02/01/2019	2019	604855	A	RPT		6.272	
08/01/2019	2019	949138	A	RPT		44.376	
09/01/2019	2019	1061141	A	RPT		14.436	
09/30/2019	2019	1161966	A	RPT		12.996	
10/31/2019	2019	1259879	A	RPT		12.620	
11/30/2019	2019	1325382	A	RPT		8.443	
12/31/2019	2019	1325382	A	RPT		0	
02/01/2020	2020	1369756	A	RPT		5.720	
03/01/2020	2020	1488098	A	RPT		15.253	
04/01/2020	2020	1488098	A	RPT		0	
05/01/2020	2020	1488098	A	RPT		0	
06/01/2020	2020	1488098	A	RPT		0	
08/01/2020	2020	1488098	A	RPT		0	
08/01/2020	2020	0	A	RPT		0	
09/01/2020	2020	154	A	RPT		0.020	
10/01/2020	2020	154	A	RPT		0	
11/01/2020	2020	26213	A	WEB		3.359	X
12/01/2020	2020	144137	A	WEB		15.200	X
01/01/2021	2020	168842	A	WEB		3.184	X
07/31/2021	2021	390794	A	ad		28.608	
08/31/2021	2021	465926	A	ad		9.684	

09/30/2021	2021	584055	A	ad	15.226
10/31/2021	2021	664994	A	ad	10.432

x

**YTD Meter Amounts:	Year	Amount
	1999	0.477
	2018	0
	2019	99.143
	2020	42.736
	2021	63.950

x

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

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

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

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

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 00865 POD1		CP	LE	2	2	3	20	22S	34E	641845	3583118	1288	885	605	280
CP 01722 POD1		CP	LE	4	4	2	18	22S	34E	640964	3584949	1632	1122	785	337
CP 01362 POD1		CP	LE	3	4	4	18	22S	34E	640809	3584182	1636	1032	613	419
CP 01455 POD1		CP	LE	4	1	4	18	22S	34E	640574	3584515	1886	1033	615	418
CP 01723 POD1		CP	LE	4	4	1	18	22S	34E	640117	3584905	2413	1140	785	355
CP 01721 POD1		CP	LE	4	2	1	18	22S	34E	640181	3585244	2467	1108	820	288
CP 01720 POD1		CP	LE	1	3	2	08	22S	34E	642003	3586723	2502	1190	824	366
CP 00597 POD1		CP	LE		2	2	08	22S	34E	642410	3587074*	2814	35		
CP 01725 POD1		CP	LE	1	2	1	18	22S	34E	639914	3585521	2826	1137	800	337
CP 00744		CP	LE		1	2	09	22S	34E	643618	3587091*	3065	460		
CP 01724 POD1		CP	LE	3	1	1	18	22S	34E	639475	3585260	3131	1172	800	372
CP 00704		CP	LE		2	4	22	22S	34E	645681	3583097*	3440	600		
CP 00592 POD1		CP	ED		3	2	13	22S	33E	638834	3585015*	3687	427		
CP 01803 POD1		CP	LE	1	1	1	34	22S	34E	644357	3580786	3966	240	180	60
CP 01826 POD1		CP	LE	1	1	1	34	22S	34E	644379	3580778	3983	698	180	518
CP 01740 POD1		CP	LE	1	1	1	34	22S	34E	644402	3580765	4006	600	560	40
CP 01706 POD1		CP	LE	4	4	2	32	22S	34E	642603	3580185	4077	340	282	58
CP 01705 POD1		CP	LE	4	4	2	32	22S	34E	642588	3580179	4083	700	305	395
CP 01829 POD1		CP	LE	4	4	2	32	22S	34E	642559	3580172	4089	1410	1150	260
CP 00598 POD1		CP	LE		4	1	23	22S	34E	646480	3583511*	4105	70		
CP 01683 POD1		CP	LE	2	3	2	23	22S	34E	646949	3583562	4560	300		
CP 00944 POD1		CP	LE		3	1	03	22S	34E	644531	3588351	4592	109	70	39
CP 01684 POD1		CP	LE	2	1	4	23	22S	34E	646932	3583129	4629	300		
CP 01682 POD1		CP	LE	1	2	2	23	22S	34E	647164	3583992	4728	294	42	252
CP 00622		CP	LE	3	4	2	14	22S	34E	647164	3585030*	4783			

Average Depth to Water: **553 feet**
Minimum Depth: **42 feet**
Maximum Depth: **1150 feet**

Record Count: 25

UTMNAD83 Radius Search (in meters):

Easting (X): 642443 **Northing (Y):** 3584260 **Radius:** 5000

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

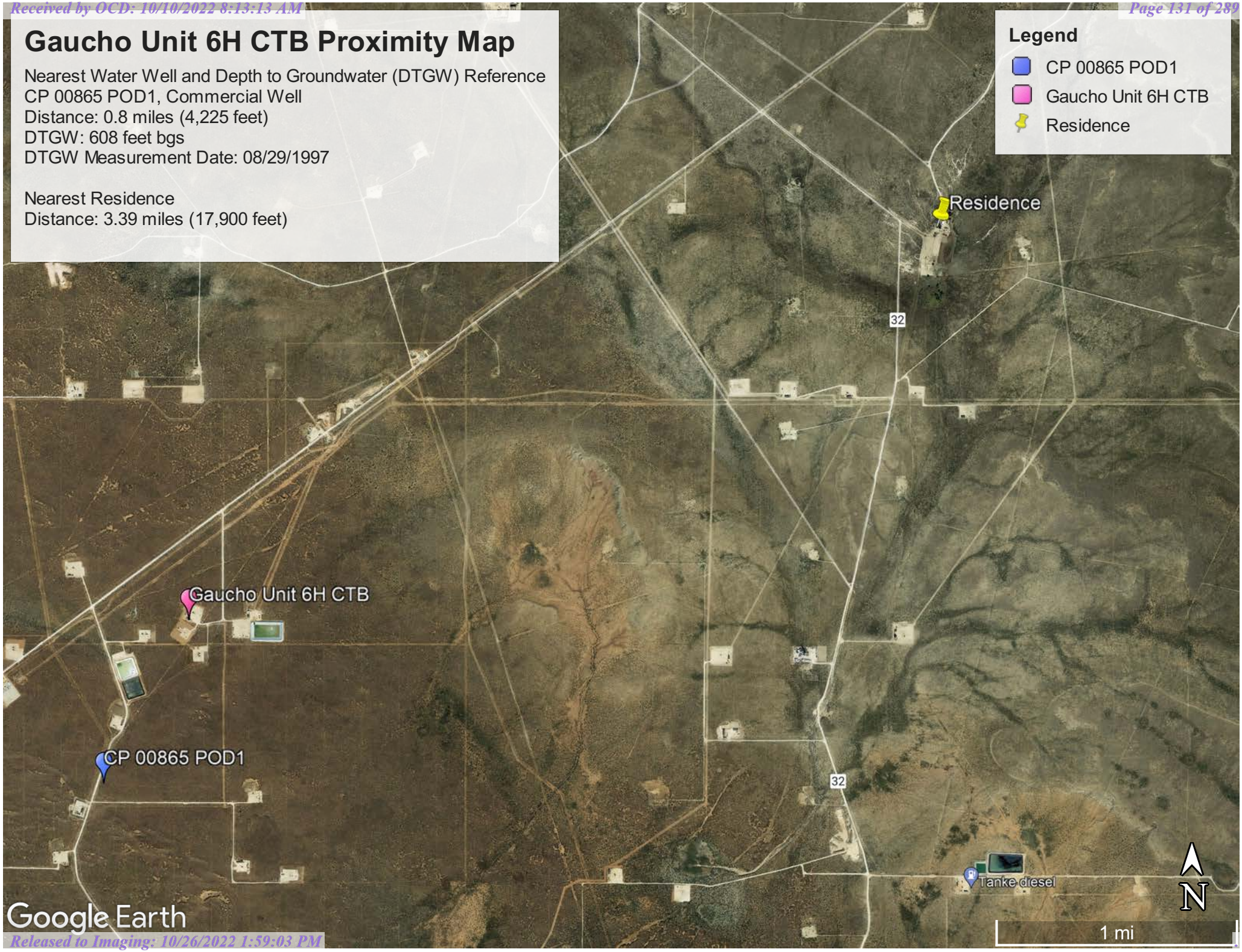
4/5/22 8:23 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Gaucho Unit 6H CTB Proximity Map

Nearest Water Well and Depth to Groundwater (DTGW) Reference
CP 00865 POD1, Commercial Well
Distance: 0.8 miles (4,225 feet)
DTGW: 608 feet bgs
DTGW Measurement Date: 08/29/1997

Nearest Residence
Distance: 3.39 miles (17,900 feet)



U.S. Fish and Wildlife Service

National Wetlands Inventory

Intermittent 5,309 feet

April 5, 2022

Wetlands

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

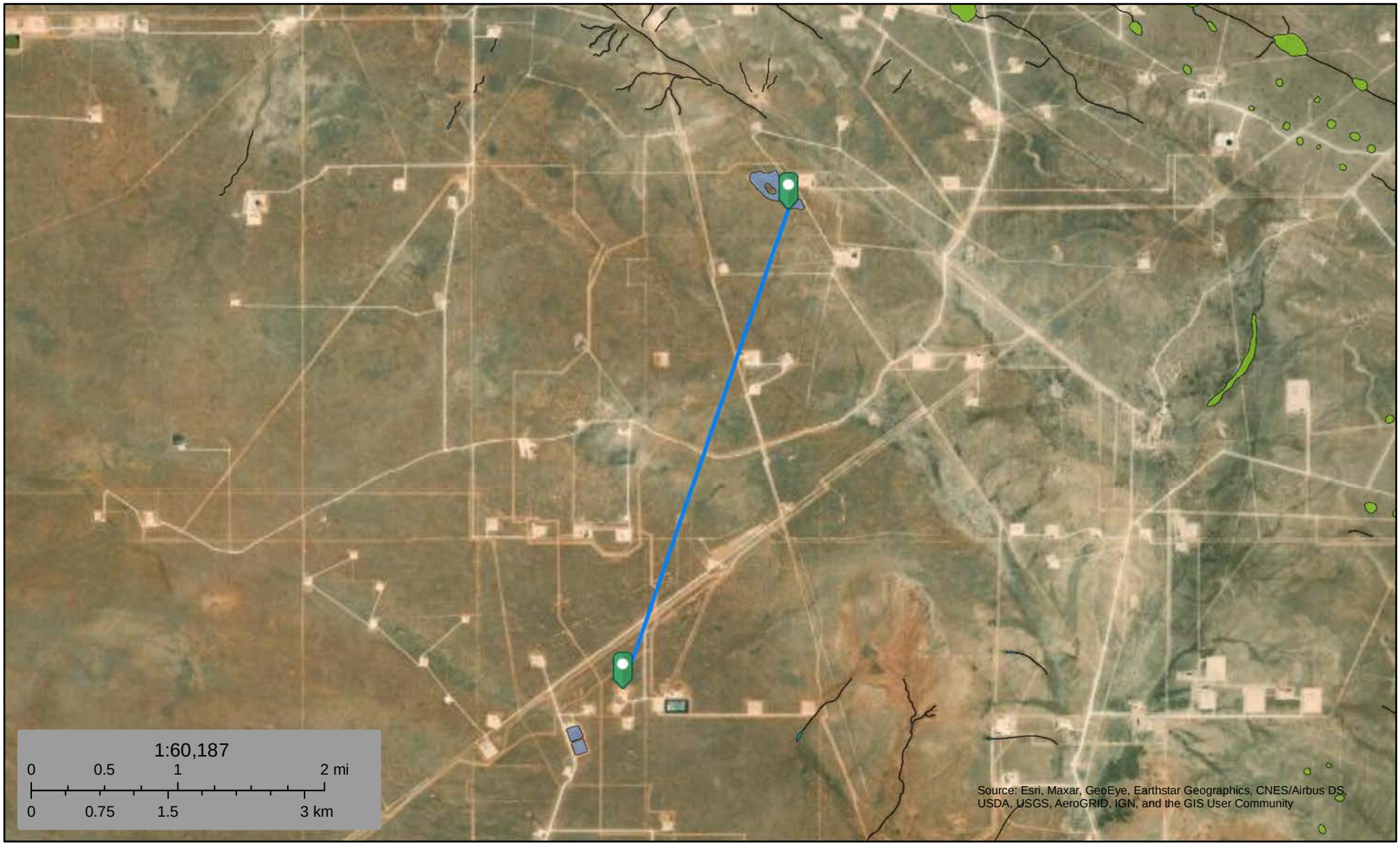
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

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

U.S. Fish and Wildlife Service

National Wetlands Inventory

Pond 15,378 feet



April 5, 2022

Wetlands

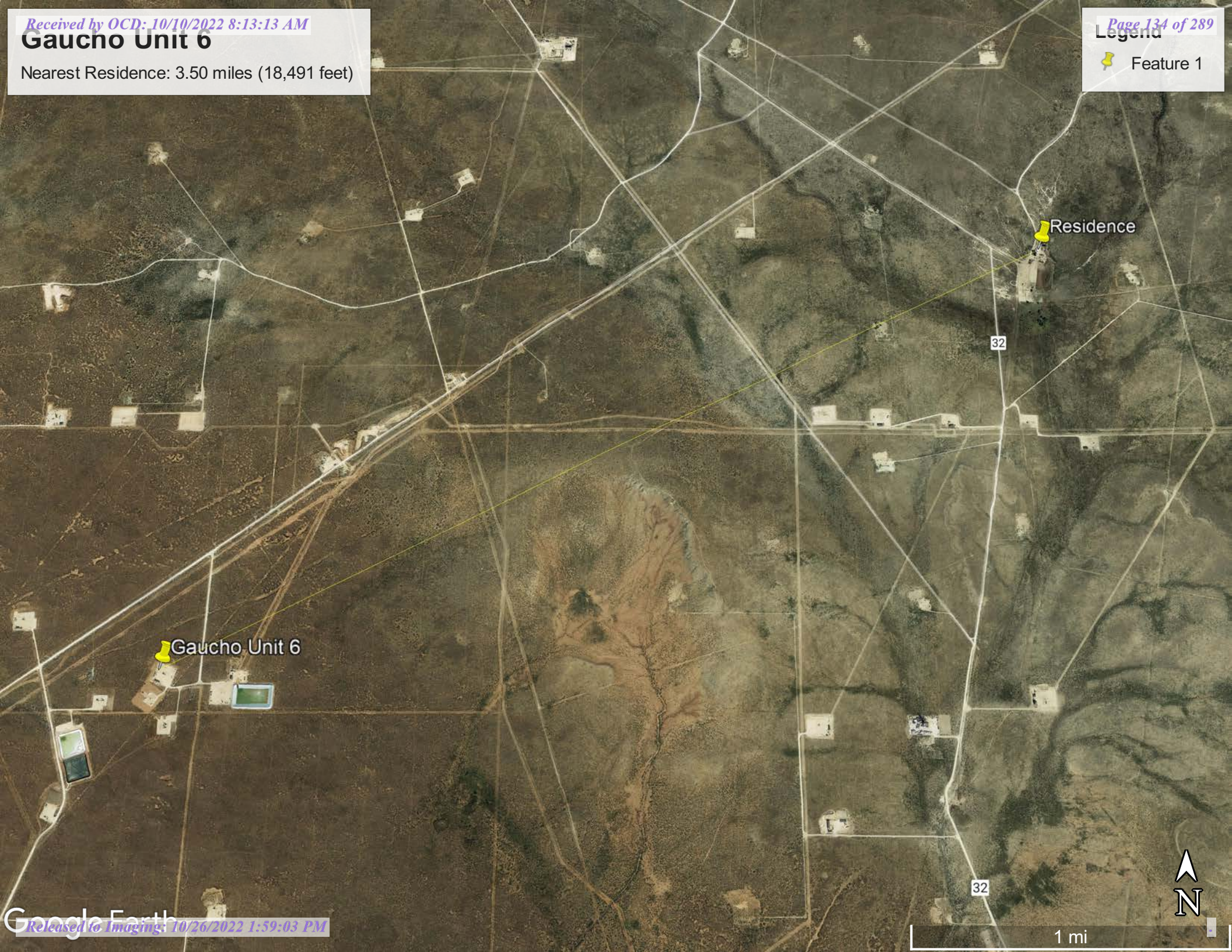
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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

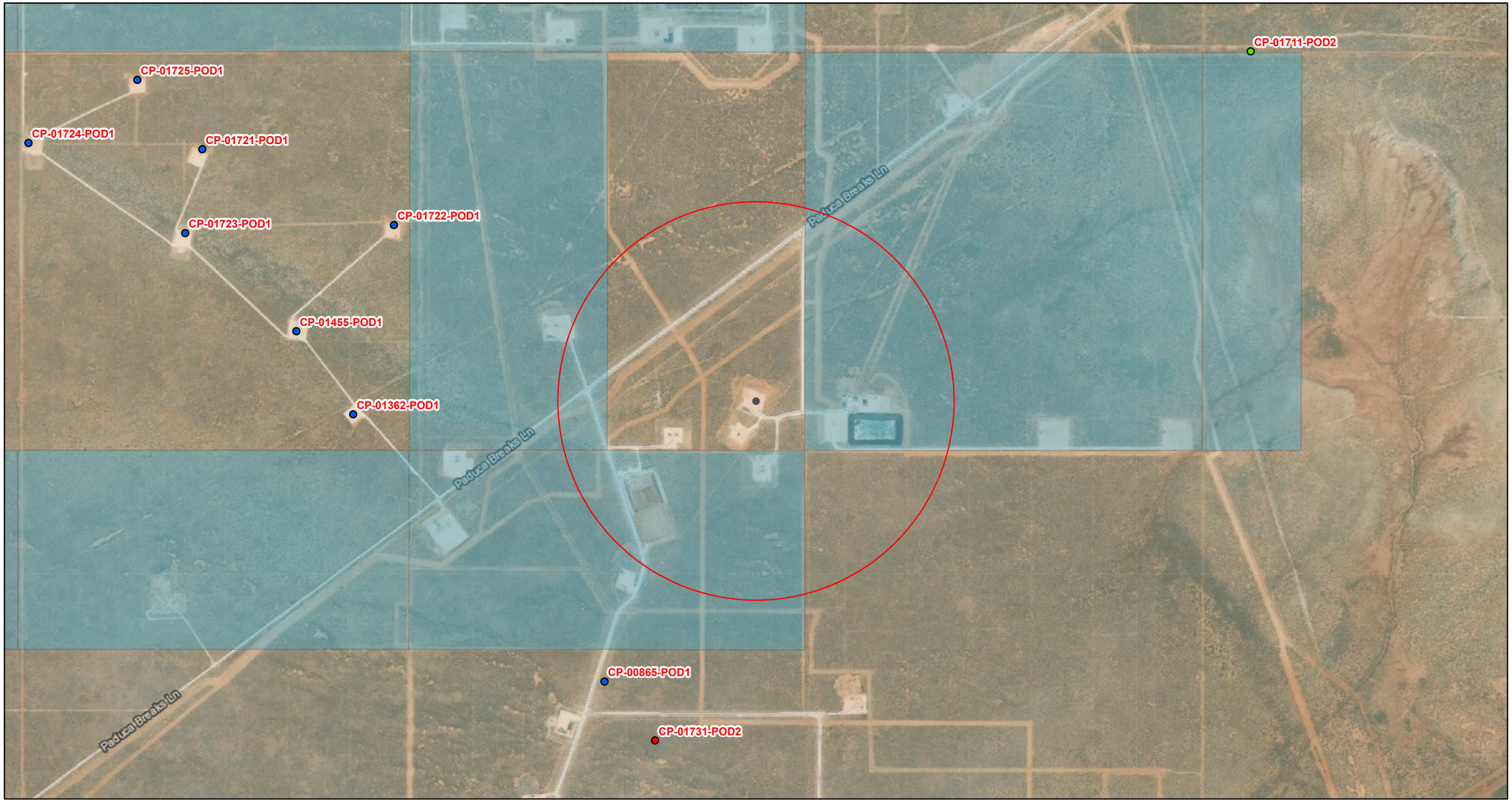
National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Gaucho Unit 6

Nearest Residence: 3.50 miles (18,491 feet)



OSE POD 0.5 mile



4/5/2022, 10:05:15 AM

GIS WATERS PODs
- Active
- Pending
- Plugged

OSE District Boundary

Water Right Regulations
- Closure Area

New Mexico State Trust Lands
- Both Estates
- SiteBoundaries

1:18,056

0 0.17 0.35 0.7 mi

0 0.3 0.6 1.2 km

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, U.S. Department of Energy Office of Legacy

Unofficial Online Map
These maps are distributed “as is” without warranty of any kind.

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: CP 00865 **Subbasin:** CP **Cross Reference:** -

Primary Purpose: COM COMMERCIAL

Primary Status: PMT PERMIT

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

Total Diversion: 100 **Cause/Case:** -

Owner: MERCHANT LIVESTOCK CO

Contact: CORKY GLENNS WATER WELL SERVICE

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	540290	APPRO	2013-05-08	PMT	MTR	CP-865	T	0	100	100
get images	476449	72121	2007-01-26	EXP	EXP	CP 00865	T		1	
get images	476438	COWNF	2005-06-16	CHG	PRC	CP 00865	T		0	
get images	476397	72121	2005-04-19	EXP	EXP	CP 00865	T		3	
get images	476395	72121	2004-04-27	EXP	EXP	CP 00865	T		3	
get images	476393	72121	2003-09-18	EXP	EXP	CP 00865	T		3	
get images	476392	72121	2001-07-25	EXP	EXP	CP 00865	T		3	
get images	476388	72121	2000-09-01	EXP	EXP	CP 00865	T		3	
get images	476387	72121	2000-07-10	EXP	EXP	CP 00865	T		3	
get images	476386	72121	1999-12-15	EXP	EXP	CP 00865	T		3	
get images	476369	72121	1999-09-27	EXP	EXP	CP 00865	T		3	
get images	476368	72121	1999-01-15	EXP	EXP	CP 00865	T		3	
get images	476360	72121	1998-11-05	EXP	EXP	CP 00865	T		3	
get images	476357	72121	1998-10-09	EXP	EXP	CP 00865	T		3	
get images	476356	72121	1998-08-07	EXP	EXP	CP 00865	T		3	
get images	476354	72121	1998-07-13	EXP	EXP	CP 00865	T		3	
get images	476353	72121	1997-08-11	PMT	LOG	CP 00865	T		3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
CP 00865 POD1		Shallow	2	2	3	20	22S	34E	641845	3583118	

Priority Summary

Priority	Status	Acres	Diversion	Pod Number	
08/28/2012	PMT	0	100	CP 00865 POD1	Shallow

Place of Use

Q Q Q16 Q4

256 64	Sec Tws Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location Desc
		0	100	100	COM		PMT	NO PLACE OF USE GIVEN

x

Source

Acres	Diversion	CU	Use	Priority	Source	Description
0	100	100	COM		GW	

4/5/22 8:40 AM

WATER RIGHT SUMMARY

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum) (R=POD has been replaced and no longer serves this file, C=the file is closed) (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q 64	q 16	q 4	Sec	Twn	Rng	X	Y	Distance
CP 00865	CP	COM	100	MERCHANT LIVESTOCK CO	LE	CP 00865 POD1				Shallow	2	2	3	20	22S	34E	641845	3583118	1288
CP 01046	CP	PRO	0	YATES PETROLEUM	LE	CP 00865 POD1				Shallow	2	2	3	20	22S	34E	641845	3583118	1288
CP 01047	CP	PRO	0	NOVA MUD	LE	CP 00865 POD1				Shallow	2	2	3	20	22S	34E	641845	3583118	1288
CP 01048	CP	PRO	0	GLENN'S WATER WELL SERVICE	LE	CP 00865 POD1				Shallow	2	2	3	20	22S	34E	641845	3583118	1288
CP 01085	CP	PRO	0	GLENN'S WATER WELL SRVC., INC.	LE	CP 00865 POD1				Shallow	2	2	3	20	22S	34E	641845	3583118	1288
CP 01086	CP	PRO	0	TD WATER SERVICES	LE	CP 00865 POD1				Shallow	2	2	3	20	22S	34E	641845	3583118	1288
CP 01087	CP	PRO	0	TONYA'S PERMIT SERVICE	LE	CP 00865 POD1				Shallow	2	2	3	20	22S	34E	641845	3583118	1288
CP 01291	CP	COM	100	ATKINS ENGR ASSOC INC	LE	CP 00865 POD1				Shallow	2	2	3	20	22S	34E	641845	3583118	1288
CP 01731	CP	COM	450	ROY TAYLOR	LE	CP 01731 POD2	20C94				3	1	4	20	22S	34E	642053	3582883	1430
CP 01722	CP	COM	100	ATKINS ENGR ASSOC INC	LE	CP 01722 POD1	NA			Artesian	4	4	2	18	22S	34E	640963	3584949	1632
CP 01362	CP	EXP	0	MERCHANT LIVESTOCK CO	LE	CP 01362 POD1				Artesian	3	4	4	18	22S	34E	640808	3584182	1636
CP 01363	CP	COM	100	ATKINS ENGR ASSOC INC	LE	CP 01362 POD1				Artesian	3	4	4	18	22S	34E	640808	3584182	1636
CP 01453	CP	COM	100	ATKINS ENGR ASSOC INC	LE	CP 01362 POD1				Artesian	3	4	4	18	22S	34E	640808	3584182	1636
CP 01456	CP	PRO	0	COG OPERATING	LE	CP 01362 POD1				Artesian	3	4	4	18	22S	34E	640808	3584182	1636
CP 01457	CP	PRO	0	COG OPERATING	LE	CP 01362 POD1				Artesian	3	4	4	18	22S	34E	640808	3584182	1636
CP 01458	CP	PRO	0	COG OPERATING	LE	CP 01362 POD1				Artesian	3	4	4	18	22S	34E	640808	3584182	1636
CP 01731	CP	COM	450	ROY TAYLOR	LE	CP 01731 POD3	20C93				4	4	4	20	22S	34E	642631	3582544	1725
					LE	CP 01731 POD1	20C95				4	4	3	20	22S	34E	641803	3582573	1803
CP 01454	CP	COM	200	MERCHANT LIVESTOCK CO	LE	CP 01455 POD1				Artesian	4	1	4	18	22S	34E	640574	3584515	1886
CP 01455	CP	EXP	0	ATKINS ENGR ASSOC INC	LE	CP 01455 POD1				Artesian	4	1	4	18	22S	34E	640574	3584515	1886
CP 01494	CP	PRO	0	COG OPERATING	LE	CP 01455 POD1				Artesian	4	1	4	18	22S	34E	640574	3584515	1886
CP 01495	CP	PRO	0	COG OPERATING	LE	CP 01455 POD1				Artesian	4	1	4	18	22S	34E	640574	3584515	1886
CP 01496	CP	PRO	0	COG OPERATING	LE	CP 01455 POD1				Artesian	4	1	4	18	22S	34E	640574	3584515	1886
CP 01630	CP	EXP	0	S2W CONTRACTING, LLC	LE	CP 01630 POD2					3	4	3	21	22S	34E	643130	3582496	1892
					LE	CP 01631 POD1					4	4	4	19	22S	34E	640970	3582491	2301
CP 01631	CP	COM	13.5	S2W WATER NM LLC	LE	CP 01631 POD1					4	4	4	19	22S	34E	640970	3582491	2301
CP 01723	CP	COM	80	MERCHANT LIVESTOCK CO/GWWS INC	LE	CP 01723 POD1	NA			Artesian	4	4	1	18	22S	34E	640117	3584905	2413
CP 01711	CP	COM	100	S2W WATER NM LLC	LE	CP 01711 POD2	NA				3	3	3	10	22S	34E	644432	3585700	2456
CP 01721	CP	COM	40	MERCHANT LIVESTOCK CO/GWWS INC	LE	CP 01721 POD1	NA			Artesian	4	2	1	18	22S	34E	640181	3585244	2467
CP 01720	CP	COM	55	MERCHANT LIVESTOCK CO	LE	CP 01720 POD1	NA			Artesian	1	3	2	08	22S	34E	642003	3586723	2502
CP 00597	CP	PLS	3	THE MERCHANT LIVESTOCK COMPANY	LE	CP 00597 POD1				Shallow		2	2	08	22S	34E	642410	3587074*	2814
CP 01725	CP	COM	110	MERCHANT LIVESTOCK CO/GWWS INC	LE	CP 01725 POD1	NA			Artesian	1	2	1	18	22S	34E	639914	3585521	2826
CP 00864	CP	PRO	0	SANTA FE ENERGY RESOURCES	LE	CP 00864						2	3	29	22S	34E	641676	3581433*	2929
CP 00744	CP	PRO	0	ORYX ENERGY	LE	CP 00744				Shallow		1	2	09	22S	34E	643618	3587091*	3065
CP 01724	CP	COM	40	ATKINS ENGR ASSOC INC	LE	CP 01724 POD1	NA			Artesian	3	1	1	18	22S	34E	639475	3585260	3131
CP 01711	CP	COM	100	S2W WATER NM LLC	LE	CP 01711 POD1	NA				2	3	1	10	22S	34E	644445	3586812	3244
CP 00704	CP	PRO	0	APACHE CORPORATION	LE	CP 00704						2	4	22	22S	34E	645681	3583097*	3440
CP 00591	CP	PLS	3	THE MERCHANT LIVESTOCK COMPANY	LE	CP 00591 POD1						3	2	13	22S	33E	638834	3585015*	3687
CP 00592	CP	PLS	3	THE MERCHANT LIVESTOCK COMPANY	ED	CP 00592 POD1				Shallow		3	2	13	22S	33E	638834	3585015*	3687
CP 01624	CP	EXP	0	ATKINS ENGR ASSOC INC	LE	CP 01624 POD1					4	2	2	32	22S	34E	642669	3580494	3772
CP 01686	CP	COM	100	LIMESTONE BASIN PROPERTIES	LE	CP 01686 POD1	NA				4	2	2	32	22S	34E	642669	3580494	3772
CP 01803	CP	STK	3	LIMESTONE BASIN PROPERTIES	LE	CP 01803 POD1	22473			Shallow	1	1	1	34	22S	34E	644356	3580786	3966
CP 01740	CP	COM	303	LIMESTONE BASIN PROPERTIES	LE	CP 01826 POD1	NA			Artesian	1	1	1	34	22S	34E	644379	3580778	3983
CP 01826	CP	EXP	0	LIMESTONE BASIN PROPERTIES	LE	CP 01826 POD1	NA			Artesian	1	1	1	34	22S	34E	644379	3580778	3983
CP 01740	CP	COM	303	LIMESTONE BASIN PROPERTIES	LE	CP 01740 POD1	NA			Artesian	1	1	1	34	22S	34E	644401	3580765	4006
CP 01706	CP	EXP	0	LIMESTONE BASIN PROP RANCH LLC	LE	CP 01706 POD1	NA			Shallow	4	4	2	32	22S	34E	642603	3580185	4077
CP 01686	CP	COM	100	LIMESTONE BASIN PROPERTIES	LE	CP 01705 POD1	20D10			Shallow	4	4	2	32	22S	34E	642587	3580179	4083
CP 01705	CP	STK	3	LIMESTONE BASIN PROPERTIES	LE	CP 01705 POD1	20D10			Shallow	4	4	2	32	22S	34E	642587	3580179	4083
CP 01829	CP	EXP	0	LIMESTONE BASIN PROPERTIES	LE	CP 01829 POD1	NA			Artesian	4	4	2	32	22S	34E	642559	3580172	4089

CP 00598	CP	PLS	3	THE MERCHANT LIVESTOCK COMPANY	LE	CP 00598 POD1			Shallow	4	1	23	22S	34E	646480	3583511*		4105
CP 01683	CP	COM	128	ATKINS ENGR ASSOC INC	LE	CP 01683 POD1	20D30			2	3	2	23	22S	34E	646949	3583562		4560
CP 00944	CP	EXP	0	ENSTOR GRAMA RIDGE STORAGE	LE	CP 00944 POD1			Shallow		3	1	03	22S	34E	644530	3588351		4592
CP 00964	CP	SAN	1	ENSTOR GRAMA RIDGE TRANSPORATION AND STORAGE LLC	LE	CP 00944 POD1			Shallow		3	1	03	22S	34E	644530	3588351		4592
CP 01684	CP	COM	128	MERCHANT LIVESTOCK CO	LE	CP 01684 POD1	2062C			2	1	4	23	22S	34E	646932	3583129		4629
CP 01682	CP	COM	128	MERCHANT LIVESTOCK CO	LE	CP 01682 POD1	2062A		Shallow	1	2	2	23	22S	34E	647163	3583992		4728
CP 01685	CP	COM	128	MERCHANT LIVESTOCK CO	LE	CP 01685 POD1	20D2F			1	2	2	23	22S	34E	647172	3584092		4732
CP 00622	CP	PRO	0	POGO PRODUCING CO.	LE	CP 00622				3	4	2	14	22S	34E	647164	3585030*		4783
CP 01073	CP	COM	85	LIMESTONE BASIN PROPERTIES	LE	CP 01073 POD1			Shallow			3	33	22S	34E	643327	3579453		4887

Record Count: 58

UTMNAD83 Radius Search (in meters):

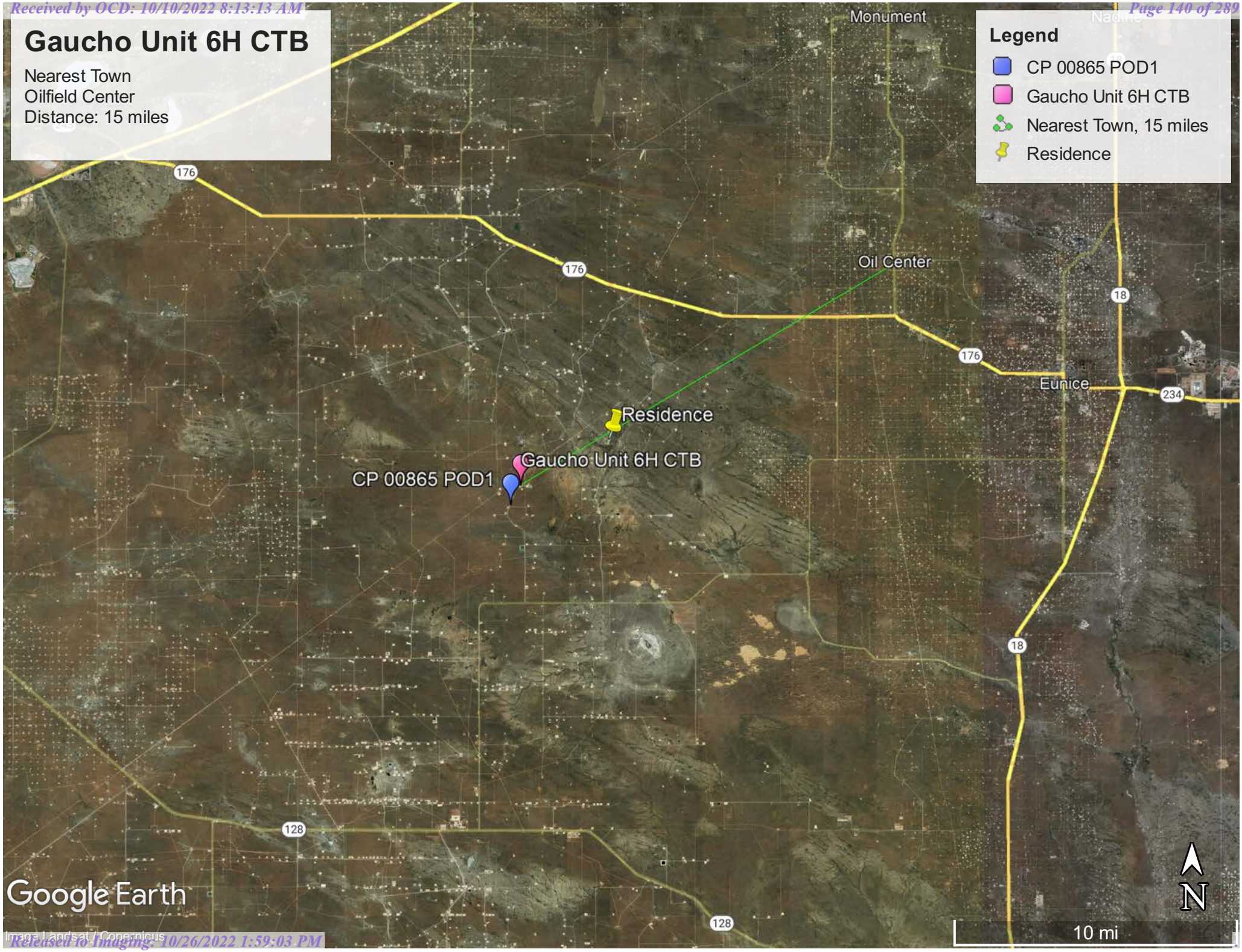
Easting (X): 642443 **Northing (Y):** 3584260 **Radius:** 5000

Sorted by: Distance

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

Gaucho Unit 6H CTB

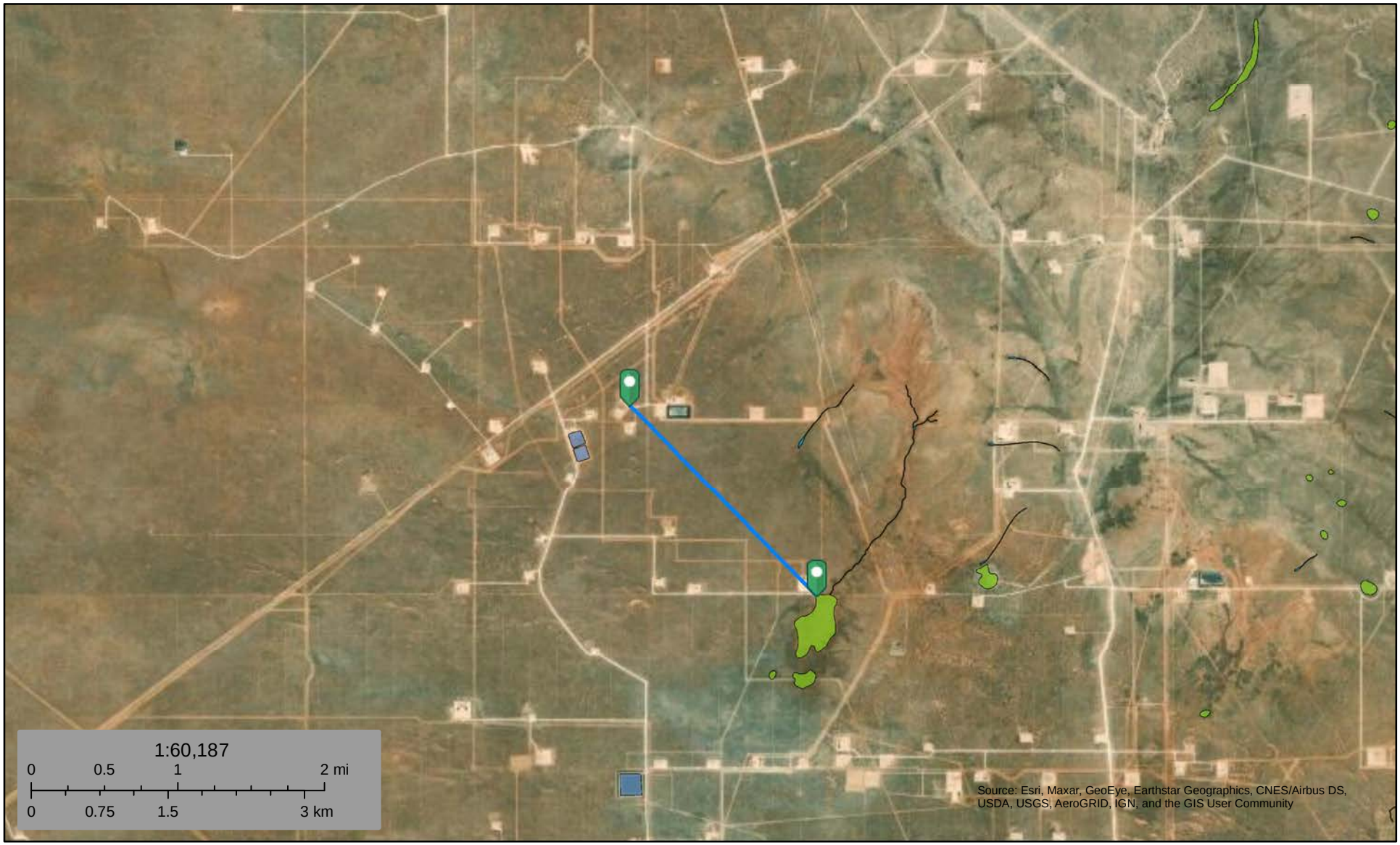
Nearest Town
Oilfield Center
Distance: 15 miles



U.S. Fish and Wildlife Service

National Wetlands Inventory

Wetland 8106 feet



April 5, 2022

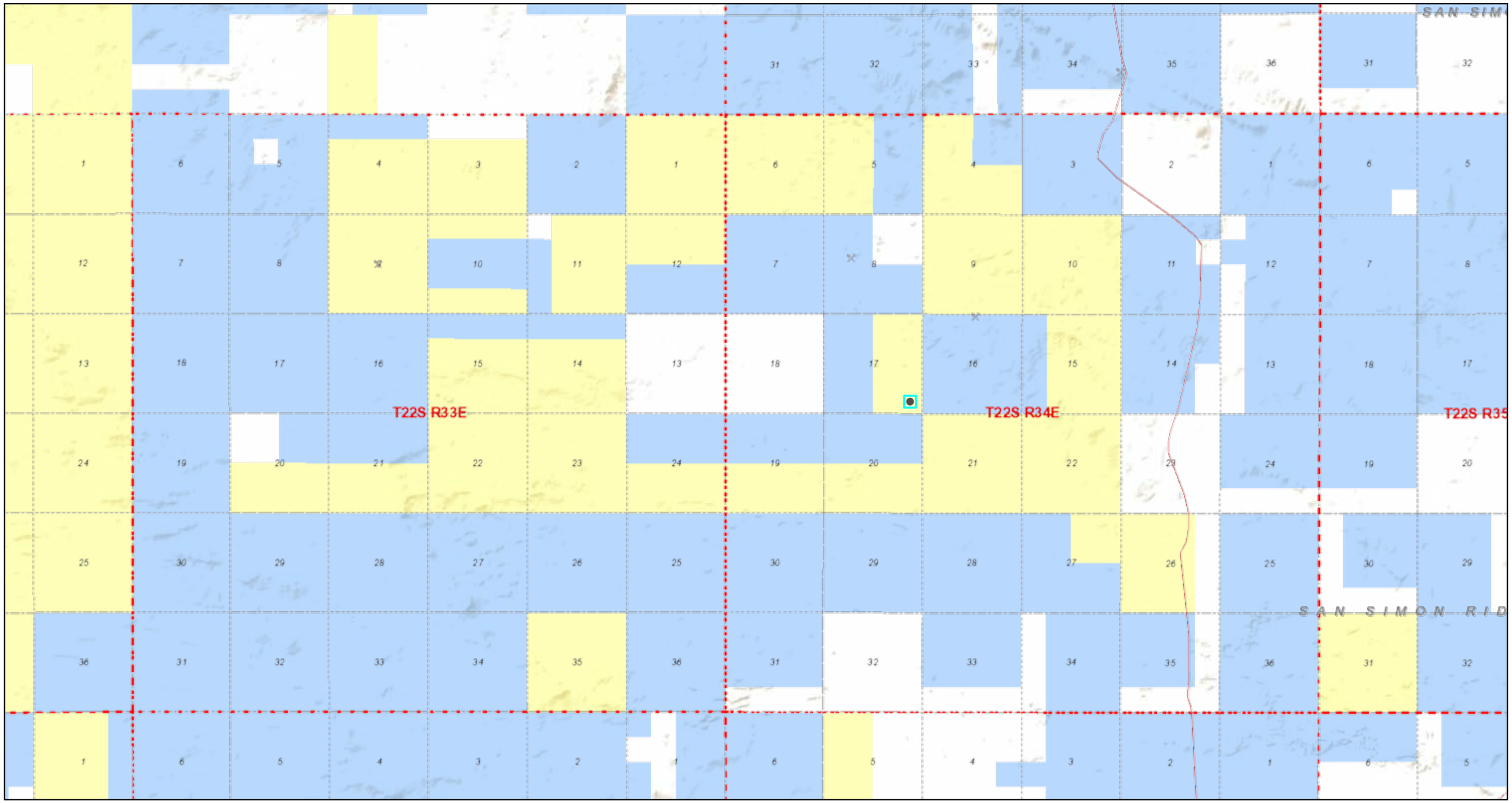
Wetlands

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

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

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

Active Mines in New Mexico



4/5/2022, 10:56:48 AM

1:72,224

Township / Range

Sections

Land Ownership

Bureau of Land Management

Bureau of Reclamation

Department of Agriculture

Department of Defense

Department of Energy

National Park Service

Private Land

State Game and Fish

State Land

State Parks

Tribal

US Fish and Wildlife Service

US Forest Service

Registered Mines

Aggregate, Stone etc.

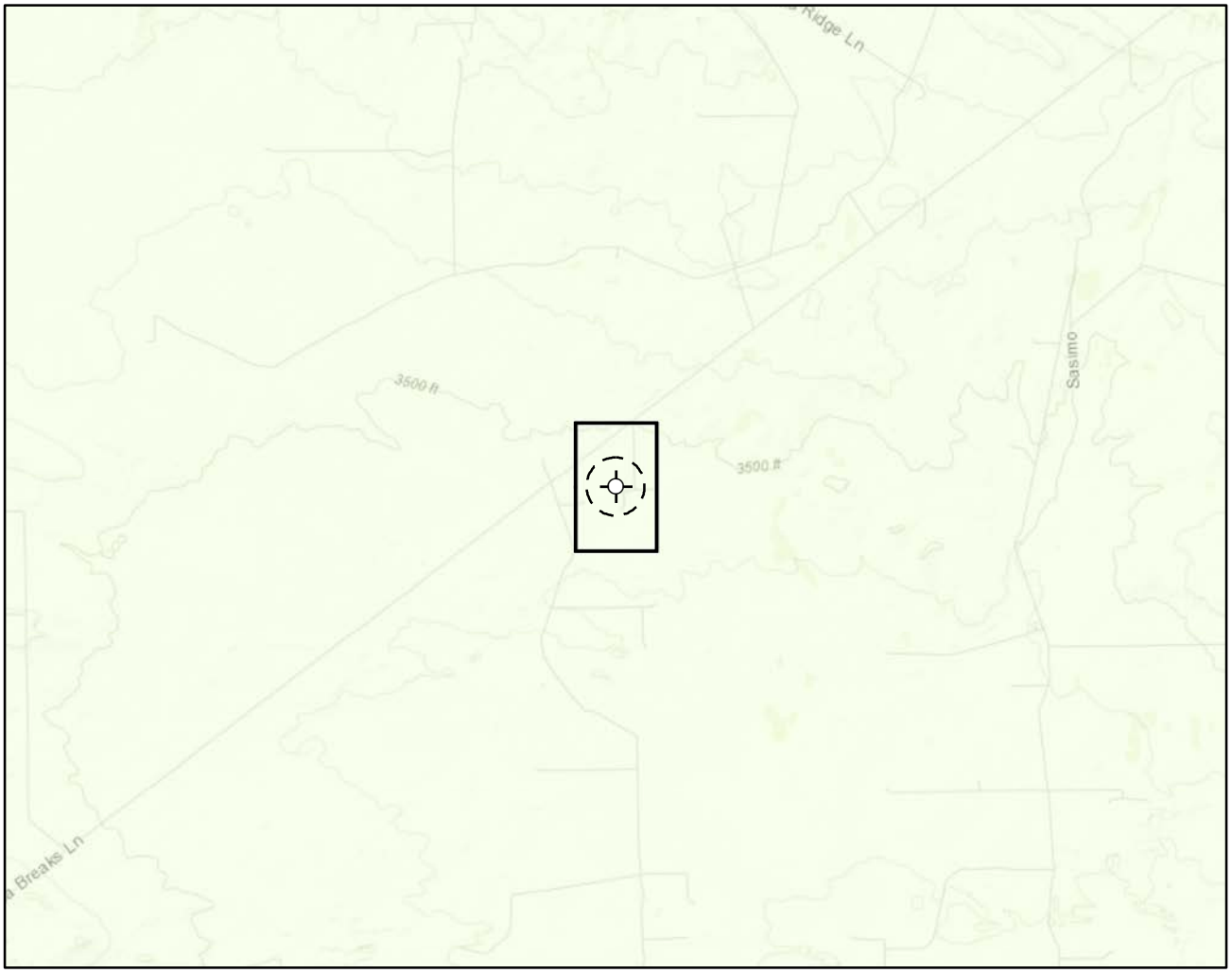
0 0.75 1.5 3 mi

0 1.25 2.5 5 km

U.S. Bureau of Land Management - New Mexico State Office, Sources: Esri, USGS, NOAA, Sources: Esri, Garmin, USGS, NPS

EMNRD MMD GIS Coordinator

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



Karst Potential

- Critical
- High
- Medium
- Low

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

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft.

VERTEX

Map Center:
Lat/Long: 32.386319, -103.485653

NAD 1983 UTM Zone 13N
Date: Apr 12/22

N

Karst Potential Schematic
Gaucho Unit 6H CTB

FIGURE:
X

devon

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

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

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\2022\22E-01101 - Gaucho Unit 6H CTB\GIS\Figure X Karst Potential Schematic Gaucho Unit 6H CTB (22E-01101).mxd

National Flood Hazard Layer FIRMette

FEMA

103°29'27"W 32°23'26"N

103°28'50"W 32°22'55"N

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

1:6,000

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

Legend

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

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

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

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

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

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

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

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/5/2022 at 12:03 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Lea County, New Mexico

April 5, 2022

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 18, Sep 10, 2021

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

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

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KM	Kermit soils and Dune land, 0 to 12 percent slopes	5.2	100.0%
Totals for Area of Interest		**5.2**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

Lea County, New Mexico

KM—Kermit soils and Dune land, 0 to 12 percent slopes

Map Unit Setting

National map unit symbol: dmpx
Elevation: 3,000 to 4,400 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Kermit

Setting

Landform: Dunes
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex
Parent material: Calcareous sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 8 inches: fine sand
C - 8 to 60 inches: fine sand

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 3 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R042XC022NM - Sandhills
Hydric soil rating: No

Description of Dune Land

Setting

Landform: Dunes
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex
Parent material: Sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 6 inches: fine sand
C - 6 to 60 inches: fine sand

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Pyote

Percent of map unit: 3 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Palomas

Percent of map unit: 3 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Wink

Percent of map unit: 2 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Maljamar

Percent of map unit: 2 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

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

USDA Natural Resources Conservation Service

Ecological site R042XC022NM
Sandhills

Accessed: 04/05/2022

General information

Figure 1. Mapped extent

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

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

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

Table 2. Representative physiographic features

Landforms	(1) Plain (2) Hill (3) Dune
Flooding frequency	None
Ponding frequency	None
Elevation	2,842–4,500 ft
Slope	5–35%

Aspect	Aspect is not a significant factor

Climatic features

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

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

Table 3. Representative climatic features

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

Influencing water features

This site is not influenced by wetlands or streams.

Soil features

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

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

Characteristic Soils Are:
Kermit
Aguena

Table 4. Representative soil features

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

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

Ecological dynamics

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

State and transition model

Plant Communities and Transitional Pathways (diagram)

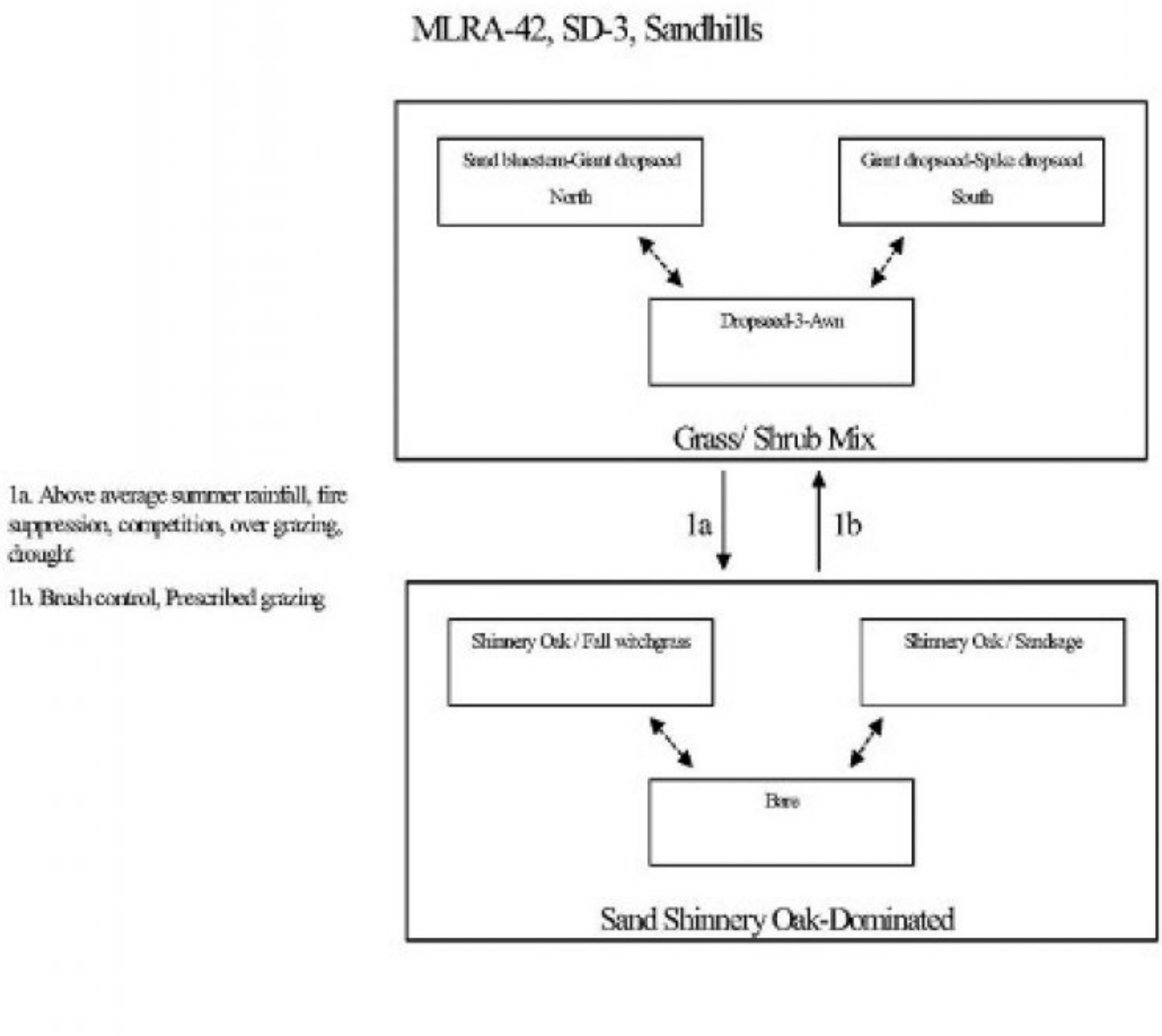


Figure 4.

State 1
Grass/Shrub Mix

Community 1.1
Grass/Shrub Mix

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

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

Table 5. Annual production by plant type

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

Table 6. Ground cover

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

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

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

State 2
Sand Shinnery Oak-Dominated

Community 2.1
Sand Shinnery Oak-Dominated

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

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

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

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

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

Additional community tables

Table 7. Community 1.1 plant community composition

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

6				49–98	
	Havard oak	QUHA3	*Quercus havardii*	49–98	–
7				49–98	
	soapweed yucca	YUGL	*Yucca glauca*	49–98	–
8				29–49	
	sand sagebrush	ARFI2	*Artemisia filifolia*	29–49	–
9				20–49	
	fourwing saltbush	ATCA2	*Atriplex canescens*	20–49	–
10				20–49	
	rabbitbrush	CHRYS9	*Chrysothamnus*	20–49	–
11				20–49	
	Shrub (>.5m)	2SHRUB	*Shrub (>.5m)*	20–49	–
Forb					
12				20–49	
	featherplume	DAFO	*Dalea formosa*	20–49	–
13				29–49	
	sundrops	CALYL	*Calylophus*	29–49	–
	phlox heliotrope	HECO5	*Heliotropium convolvulaceum*	29–49	–
	sharpleaf penstemon	PEAC	*Penstemon acuminatus*	29–49	–
14				20–49	
	touristplant	DIWI2	*Dimorphocarpa wislizeni*	20–49	–
	lemon beebalm	MOCI	*Monarda citriodora*	20–49	–
16				29–49	
	hymenopappus	HYMEN4	*Hymenopappus*	29–49	–
	blazingstar	MENTZ	*Mentzelia*	29–49	–
	threadleaf ragwort	SEFLF	*Senecio flaccidus var. flaccidus*	29–49	–
17				20–49	
	sunflower	HELIA3	*Helianthus*	20–49	–
18				20–49	
	buckwheat	ERIOG	*Eriogonum*	20–49	–
19				20–49	
	Forb (herbaceous, not grass nor grass-like)	2FORB	*Forb (herbaceous, not grass nor grass-like)*	20–49	–

Animal community

This site provides habitat which support a resident animal community that is characterized by pronghorn antelope, black-tailed jackrabbit, Ord's kangaroo rat, Northern grasshopper mouse, Southern Plains woodrat, swift fox, roadrunner, meadowlark, lark bunting, ferruginous hawk, lesser prairie chicken, mourning dove, scaled quail, sand dune lizard, marbled whiptail, ornate box turtle, bullsnake and Western diamondback rattlesnake. Grasshopper and vesper sparrows utilize the site during migration. The ferruginous hawk sometimes nests on dunes associated with the site. White-tailed deer are also sometimes associated with this site (Mescalero Sands). Where mesquite invades, resident species of birds such as white-necked raven, roadrunner, pyrrhuloxia, mourning dove, and Harris hawk nest. Where sand hummocks form around shrubs, rodent populations and their predators increase. Fourwing saltbush, shinnery oak, sand sagebrush, and mesquite provide protective cover for scaled quail. Seed, green herbage, and fruit from a variety of grasses, forbs, and shrubs provide food for a number of birds and mammals, including mourning dove, scaled quail, lessor prairie chicken and antelope.

Hydrological functions

The runoff curve numbers are determined by field investigations using hydrolic cover conditions and hydrologic soil groups.

Hydrologic Interpretations
Soil Series------- Hydrologic Group
Kermit---------- A
Aguena---------- A

Recreational uses

This site offers recreation potential for hiking, horseback riding, nature observation and photography. This site also offers opportunities for hunting of such species as quail, dove and antelope.

Mechanical, off-road vehicle use by dune buggies, four wheelers, or motor bikes is site-destructive, resulting in severe soil movement by wind erosion. Off-road vehicle use should be confined to those areas which are already deterioriated and where intensive management for soil protection can be practiced.

During years of abundant spring moisture, this site desplays a colorful array of wildflowers during May and June. A few showy summer and fall flowers also occur.

Wood products

The plant community associated with this site affords little or no wood products.

Other products

This site is suitable for grazing during all seasons of the year by all kinds and classes of livestock. Where shinnery oak has increased considerably above the amount in the potential plant community cattle loss can occur if grazed during the late bud and early leaf stage. This site responds well to an integrated brush management and grazing management. Brush management is inappropriate in occupied or potential habitat for sand dune lizard. Mismannagement of this site will cause a decrease in Harvard panicum, sand bluestem, giant dropseed, plains bristlegrass, sand paspalum and fourwing saltbush. There will be a corresponding increase in dropseeds, sand sagebrush and shinnery oak. When shinnery oak is not a problem, this site responds best to a system of mangement that rotates the season of use. Grazing management plans should be design to leave adequate residual cover for lesser prairie chicken nesting.

Other information

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month
Similarity Index----- Ac/AUM
100 - 76---------- 2.0 – 4.0
75 – 51---------- 3.0 – 6.5
50 – 26---------- 5.0 – 12.0
25 – 0---------- 12.0 - +

Inventory data references

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains (SD-3) Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: South Chaves, Eddy, Lea and Otero Counties.

Other references

Literature Cited:

1. Sears, W.E., C.M. Britton, D.B. Wester, and R.D. Pettit. 1986. Herbicide conversion of a sand shinnery oak (Quercus havardii) community: effects on biomass. J. Range. Manage. 39: 399-403.

2. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (2002, September). Fire Effects Information System, [Online]. Available: http://www.fs.fed.us/database/feis/ [accessed 1/07/02].

3.Villena, F. and J.A. Pfister. 1990. Sand shinnery oak as forage for Angora and Spanish goats. J. Range. Manage. 43: 116-122.

Contributors

David Trujillo
Don Sylvester

Rangeland health reference sheet

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

Author(s)/participant(s)	
Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:**

2. **Presence of water flow patterns:**

3. **Number and height of erosional pedestals or terracettes:**

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

5. **Number of gullies and erosion associated with gullies:**

6. **Extent of wind scoured, blowouts and/or depositional areas:**

7. **Amount of litter movement (describe size and distance expected to travel):**

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

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

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

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

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

    Dominant:

    Sub-dominant:

    Other:

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

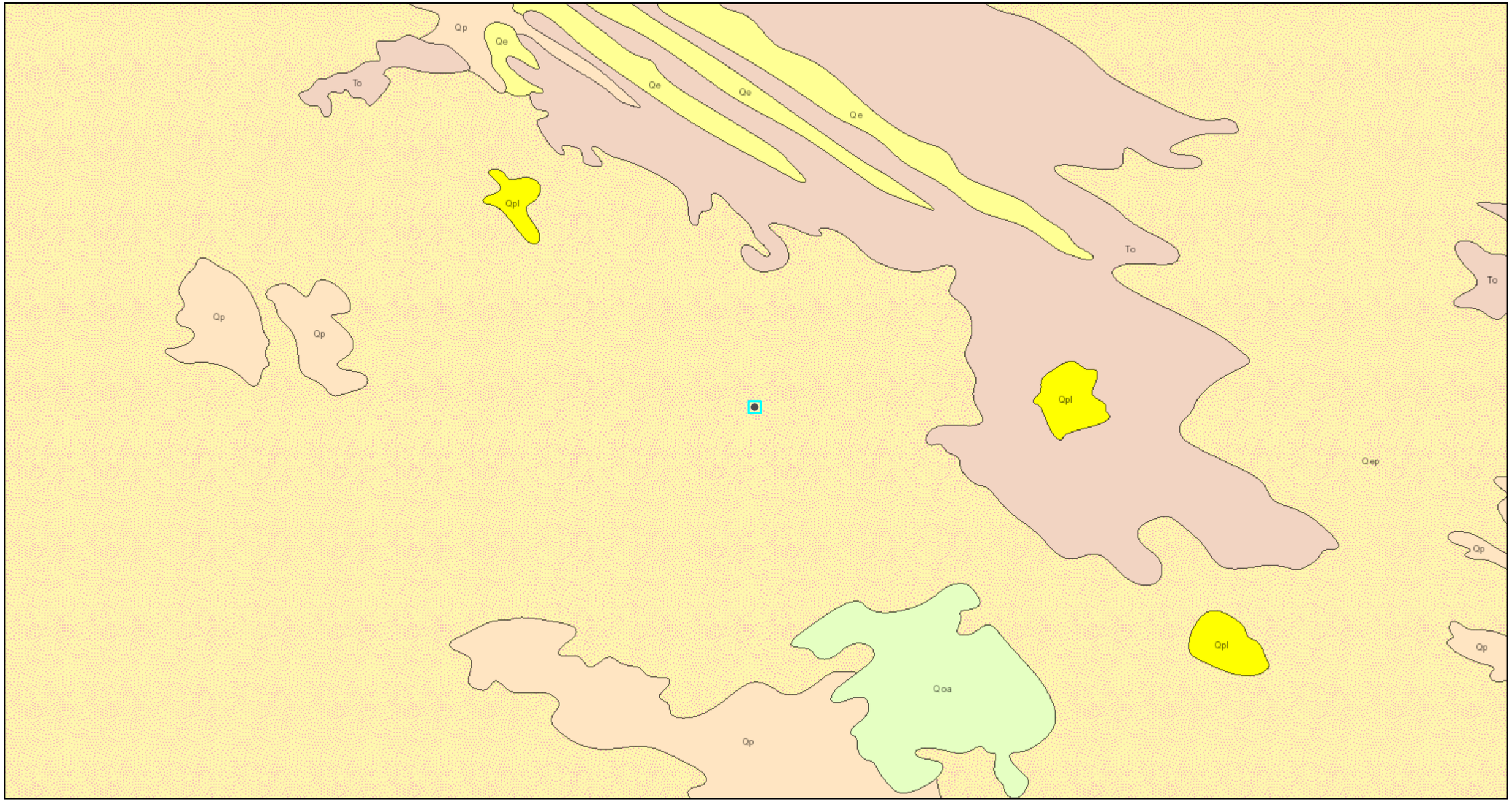
14. **Average percent litter cover (%) and depth (in):**

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

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

17. **Perennial plant reproductive capability:**

ArcGIS Web Map



4/5/2022, 11:15:38 AM

1:144,448

Lithologic Units

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

0 1.5 3 6 mi

0 2.5 5 10 km

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

ArcGIS Web AppBuilder

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

ATTACHMENT 6

Monica Peppin

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Friday, June 17, 2022 10:10 AM
To: Enviro, OCD, EMNRD; CFO_Spill, BLM_NM; dale.woodall@dvn.com
Cc: Monica Peppin
Subject: Gaucho Unit 6 48-HR Notification Multiple Releases

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled confirmatory sampling to be conducted for the following releases:

nAPP2201348579 DOR: 12/28/2021 Site Name: Gaucho Unit 6H CTB
nKJ1602628821 DOR: 01/22/2015
nAPP2208733407 DOR: 03/25/2022
nOY1727243107 DOR: 09/14/2017

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

On Tuesday, June 21, 2022 at approximately 10:00 a.m., Monica Peppin will be on site to conduct confirmatory sampling and a liner inspection. Sampling may go into June 22, 2022. She can be reached at 575-361-9880. If you need directions to the site, please do not hesitate to contact her.

Thank you,

Monica Peppin
Project Manager

Vertex Resource Services Inc.
3101 Boyd Drive,
Carlsbad, NM 88220

P 575.725.5001 Ext. 711
C 575.361.9880
F

www.vertex.ca

Monica Peppin

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: Tuesday, July 5, 2022 12:11 PM
To: Enviro, OCD, EMNRD; CFO_Spill, BLM_NM
Cc: Monica Peppin
Subject: Gaucho Unit 6 48-HR Notification Multiple Releases

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled confirmatory sampling to be conducted for the following releases:

nAPP2201348579 DOR: 12/28/2021 Site Name: Gaucho Unit 6H CTB
nKJ1602628821 DOR: 01/22/2015
nAPP2208733407 DOR: 03/25/2022

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

On Thursday, July 7, 2022 at approximately 12:00 p.m., McKitrick Wier will be on site to conduct additional confirmatory sampling. Sampling may go into July 8, 2022. He can be reached at 575-361-9639. If you need directions to the site, please do not hesitate to contact her.

Thank you,

Monica Peppin
Project Manager

Vertex Resource Services Inc.
3101 Boyd Drive,
Carlsbad, NM 88220

P 575.725.5001 Ext. 711
C 575.361.9880
F

www.vertex.ca

ATTACHMENT 7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

May 13, 2022

Monica Peppin

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

RE: Gaucho 6 Battery OrderNo.: 2205058

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 6 sample(s) on 5/3/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2205058**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho 6 Battery
Lab ID: 2205058-001 **Matrix:** SOIL

Client Sample ID: BH22-01 0'
Collection Date: 4/29/2022 10:00:00 AM
Received Date: 5/3/2022 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	5/6/2022 2:06:20 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/6/2022 2:06:20 PM
Surr: DNOP	98.4	51.1-141		%Rec	1	5/6/2022 2:06:20 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	5/7/2022 12:32:06 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	0.025		mg/Kg	1	5/5/2022 1:35:14 PM
Toluene	ND	0.050		mg/Kg	1	5/5/2022 1:35:14 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/5/2022 1:35:14 PM
Xylenes, Total	ND	0.099		mg/Kg	1	5/5/2022 1:35:14 PM
Surr: 1,2-Dichloroethane-d4	94.1	70-130		%Rec	1	5/5/2022 1:35:14 PM
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	5/5/2022 1:35:14 PM
Surr: Dibromofluoromethane	119	70-130		%Rec	1	5/5/2022 1:35:14 PM
Surr: Toluene-d8	91.7	70-130		%Rec	1	5/5/2022 1:35:14 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JR**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/5/2022 1:35:14 PM
Surr: BFB	111	70-130		%Rec	1	5/5/2022 1:35:14 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2205058**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho 6 Battery
Lab ID: 2205058-002 **Matrix:** SOIL

Client Sample ID: BH22-02 0'
Collection Date: 4/29/2022 10:10:00 AM
Received Date: 5/3/2022 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/6/2022 2:30:02 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/6/2022 2:30:02 PM
Surr: DNOP	101	51.1-141		%Rec	1	5/6/2022 2:30:02 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	5/7/2022 12:44:27 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	0.023		mg/Kg	1	5/5/2022 3:01:03 PM
Toluene	ND	0.047		mg/Kg	1	5/5/2022 3:01:03 PM
Ethylbenzene	ND	0.047		mg/Kg	1	5/5/2022 3:01:03 PM
Xylenes, Total	ND	0.094		mg/Kg	1	5/5/2022 3:01:03 PM
Surr: 1,2-Dichloroethane-d4	96.0	70-130		%Rec	1	5/5/2022 3:01:03 PM
Surr: 4-Bromofluorobenzene	93.4	70-130		%Rec	1	5/5/2022 3:01:03 PM
Surr: Dibromofluoromethane	122	70-130		%Rec	1	5/5/2022 3:01:03 PM
Surr: Toluene-d8	92.0	70-130		%Rec	1	5/5/2022 3:01:03 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JR**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/5/2022 3:01:03 PM
Surr: BFB	107	70-130		%Rec	1	5/5/2022 3:01:03 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	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2205058**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho 6 Battery
Lab ID: 2205058-003 **Matrix:** SOIL

Client Sample ID: BH22-03 0'
Collection Date: 4/29/2022 10:20:00 AM
Received Date: 5/3/2022 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/6/2022 2:53:45 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/6/2022 2:53:45 PM
Surr: DNOP	101	51.1-141		%Rec	1	5/6/2022 2:53:45 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	5/7/2022 12:56:48 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	0.024		mg/Kg	1	5/5/2022 4:26:29 PM
Toluene	ND	0.049		mg/Kg	1	5/5/2022 4:26:29 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/5/2022 4:26:29 PM
Xylenes, Total	ND	0.098		mg/Kg	1	5/5/2022 4:26:29 PM
Surr: 1,2-Dichloroethane-d4	96.0	70-130		%Rec	1	5/5/2022 4:26:29 PM
Surr: 4-Bromofluorobenzene	96.1	70-130		%Rec	1	5/5/2022 4:26:29 PM
Surr: Dibromofluoromethane	117	70-130		%Rec	1	5/5/2022 4:26:29 PM
Surr: Toluene-d8	92.7	70-130		%Rec	1	5/5/2022 4:26:29 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/5/2022 4:26:29 PM
Surr: BFB	110	70-130		%Rec	1	5/5/2022 4:26:29 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2205058**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-04 0'
Project: Gaucho 6 Battery
Collection Date: 4/29/2022 10:30:00 AM
Lab ID: 2205058-004 **Matrix:** SOIL
Received Date: 5/3/2022 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	18000	380		mg/Kg	40	5/9/2022 1:19:19 PM
Motor Oil Range Organics (MRO)	5400	1900		mg/Kg	40	5/9/2022 1:19:19 PM
Surr: DNOP	0	51.1-141	S	%Rec	40	5/9/2022 1:19:19 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	5/7/2022 1:09:08 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	0.12		mg/Kg	5	5/5/2022 4:54:59 PM
Toluene	3.2	0.24		mg/Kg	5	5/5/2022 4:54:59 PM
Ethylbenzene	7.4	0.24		mg/Kg	5	5/5/2022 4:54:59 PM
Xylenes, Total	43	4.8		mg/Kg	50	5/6/2022 11:50:12 AM
Surr: 1,2-Dichloroethane-d4	96.2	70-130		%Rec	5	5/5/2022 4:54:59 PM
Surr: 4-Bromofluorobenzene	91.3	70-130		%Rec	5	5/5/2022 4:54:59 PM
Surr: Dibromofluoromethane	114	70-130		%Rec	5	5/5/2022 4:54:59 PM
Surr: Toluene-d8	87.6	70-130		%Rec	5	5/5/2022 4:54:59 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JR**
Gasoline Range Organics (GRO)	1300	24		mg/Kg	5	5/5/2022 4:54:59 PM
Surr: BFB	100	70-130		%Rec	5	5/5/2022 4:54:59 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2205058**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho 6 Battery
Lab ID: 2205058-005 **Matrix:** SOIL

Client Sample ID: BH22-04 4'
Collection Date: 4/29/2022 10:40:00 AM
Received Date: 5/3/2022 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	110	9.7		mg/Kg	1	5/6/2022 3:17:25 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/6/2022 3:17:25 PM
Surr: DNOP	109	51.1-141		%Rec	1	5/6/2022 3:17:25 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	5/7/2022 1:21:29 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	0.025		mg/Kg	1	5/5/2022 5:23:26 PM
Toluene	ND	0.050		mg/Kg	1	5/5/2022 5:23:26 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/5/2022 5:23:26 PM
Xylenes, Total	ND	0.099		mg/Kg	1	5/5/2022 5:23:26 PM
Surr: 1,2-Dichloroethane-d4	94.0	70-130		%Rec	1	5/5/2022 5:23:26 PM
Surr: 4-Bromofluorobenzene	96.3	70-130		%Rec	1	5/5/2022 5:23:26 PM
Surr: Dibromofluoromethane	122	70-130		%Rec	1	5/5/2022 5:23:26 PM
Surr: Toluene-d8	89.6	70-130		%Rec	1	5/5/2022 5:23:26 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JR**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/6/2022 11:15:34 PM
Surr: BFB	109	70-130		%Rec	1	5/6/2022 11:15:34 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2205058**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho 6 Battery
Lab ID: 2205058-006 **Matrix:** SOIL

Client Sample ID: BH22-04 8'
Collection Date: 4/29/2022 10:50:00 AM
Received Date: 5/3/2022 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	5/5/2022 10:50:32 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/5/2022 10:50:32 PM
Surr: DNOP	95.8	51.1-141		%Rec	1	5/5/2022 10:50:32 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	5/7/2022 1:58:31 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JR**
Benzene	ND	0.024		mg/Kg	1	5/5/2022 5:51:51 PM
Toluene	ND	0.048		mg/Kg	1	5/5/2022 5:51:51 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/5/2022 5:51:51 PM
Xylenes, Total	ND	0.097		mg/Kg	1	5/5/2022 5:51:51 PM
Surr: 1,2-Dichloroethane-d4	97.5	70-130		%Rec	1	5/5/2022 5:51:51 PM
Surr: 4-Bromofluorobenzene	97.8	70-130		%Rec	1	5/5/2022 5:51:51 PM
Surr: Dibromofluoromethane	120	70-130		%Rec	1	5/5/2022 5:51:51 PM
Surr: Toluene-d8	90.1	70-130		%Rec	1	5/5/2022 5:51:51 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JR**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/5/2022 5:51:51 PM
Surr: BFB	112	70-130		%Rec	1	5/5/2022 5:51:51 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2205058**

13-May-22

Client: Devon Energy

Project: Gaucho 6 Battery

Sample ID: **MB-67318**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **67318**	RunNo: **87798**
Prep Date: **5/6/2022**	Analysis Date: **5/6/2022**	SeqNo: **3111702** Units: **mg/Kg**

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

Sample ID: **LCS-67318**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **67318**	RunNo: **87798**
Prep Date: **5/6/2022**	Analysis Date: **5/6/2022**	SeqNo: **3111703** Units: **mg/Kg**

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2205058**

13-May-22

Client: Devon Energy
Project: Gaucho 6 Battery

Sample ID: **MB-67279**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **67279**	RunNo: **87770**
Prep Date: **5/5/2022**	Analysis Date: **5/5/2022**	SeqNo: **3108790** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.6		10.00		96.5	51.1	141			

Sample ID: **LCS-67279**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **67279**	RunNo: **87770**
Prep Date: **5/5/2022**	Analysis Date: **5/5/2022**	SeqNo: **3108791** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.7		5.000		94.1	51.1	141			

Sample ID: **LCS-67248**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **67248**	RunNo: **87762**
Prep Date: **5/4/2022**	Analysis Date: **5/5/2022**	SeqNo: **3109549** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	106	68.9	135			
Surr: DNOP	3.8		5.000		76.6	51.1	141			

Sample ID: **LCS-67260**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **67260**	RunNo: **87762**
Prep Date: **5/4/2022**	Analysis Date: **5/5/2022**	SeqNo: **3109550** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.7		5.000		73.5	51.1	141			

Sample ID: **MB-67248**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **67248**	RunNo: **87762**
Prep Date: **5/4/2022**	Analysis Date: **5/5/2022**	SeqNo: **3109553** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.3		10.00		83.4	51.1	141			

Sample ID: **MB-67260**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **67260**	RunNo: **87762**
Prep Date: **5/4/2022**	Analysis Date: **5/5/2022**	SeqNo: **3109554** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.4		10.00		84.4	51.1	141			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2205058**

13-May-22

Client: Devon Energy

Project: Gaucho 6 Battery

Sample ID: **LCS-67261**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **67261**	RunNo: **87770**
Prep Date: **5/4/2022**	Analysis Date: **5/5/2022**	SeqNo: **3110540** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	81.4	68.9	135			
Surr: DNOP	4.7		5.000		93.5	51.1	141			

Sample ID: **MB-67261**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **67261**	RunNo: **87770**
Prep Date: **5/4/2022**	Analysis Date: **5/5/2022**	SeqNo: **3110541** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.8		10.00		98.3	51.1	141			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2205058**

13-May-22

Client: Devon Energy

Project: Gaucho 6 Battery

Sample ID: **2205058-002ams** SampType: **MS4** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **BH22-02 0'** Batch ID: **67237** RunNo: **87785**

Prep Date: **5/3/2022** Analysis Date: **5/5/2022** SeqNo: **3109313** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	0.9911	0	98.3	63.5	137			
Toluene	0.82	0.050	0.9911	0.01335	81.3	77.6	127			
Ethylbenzene	0.92	0.050	0.9911	0	92.8	77.9	129			
Xylenes, Total	2.6	0.099	2.973	0	88.4	76.8	127			
Surr: 1,2-Dichloroethane-d4	0.45		0.4955		90.3	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.4955		93.7	70	130			
Surr: Dibromofluoromethane	0.58		0.4955		117	70	130			
Surr: Toluene-d8	0.43		0.4955		87.7	70	130			

Sample ID: **2205058-002amsd** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **BH22-02 0'** Batch ID: **67237** RunNo: **87785**

Prep Date: **5/3/2022** Analysis Date: **5/5/2022** SeqNo: **3109314** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	0.9940	0	94.6	63.5	137	3.60	20	
Toluene	0.81	0.050	0.9940	0.01335	80.0	77.6	127	1.25	20	
Ethylbenzene	0.85	0.050	0.9940	0	85.3	77.9	129	8.19	20	
Xylenes, Total	2.5	0.099	2.982	0	84.9	76.8	127	3.78	20	
Surr: 1,2-Dichloroethane-d4	0.46		0.4970		92.7	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.46		0.4970		92.5	70	130	0	0	
Surr: Dibromofluoromethane	0.58		0.4970		116	70	130	0	0	
Surr: Toluene-d8	0.45		0.4970		91.4	70	130	0	0	

Sample ID: **mb-67237** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **PBS** Batch ID: **67237** RunNo: **87785**

Prep Date: **5/3/2022** Analysis Date: **5/5/2022** SeqNo: **3109334** 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		96.3	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.1	70	130			
Surr: Dibromofluoromethane	0.62		0.5000		123	70	130			
Surr: Toluene-d8	0.45		0.5000		90.7	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2205058**

13-May-22

Client: Devon Energy

Project: Gaucho 6 Battery

Sample ID: **LCS-67237**	SampType: **LCS4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **67237**	RunNo: **87830**
Prep Date: **5/3/2022**	Analysis Date: **5/6/2022**	SeqNo: **3111395** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	96.2	80	120			
Toluene	0.84	0.050	1.000	0	84.2	80	120			
Ethylbenzene	0.88	0.050	1.000	0	88.0	80	120			
Xylenes, Total	2.6	0.10	3.000	0	86.6	80	120			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.3	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.7	70	130			
Surr: Dibromofluoromethane	0.58		0.5000		116	70	130			
Surr: Toluene-d8	0.45		0.5000		90.7	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2205058**

13-May-22

Client: Devon Energy

Project: Gaucho 6 Battery

Sample ID: **2205058-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **BH22-01 0'**	Batch ID: **67237**	RunNo: **87785**
Prep Date: **5/3/2022**	Analysis Date: **5/5/2022**	SeqNo: **3109349** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	24.90	1.715	86.2	61.1	127			
Surr: BFB	530		498.0		106	70	130			

Sample ID: **2205058-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **BH22-01 0'**	Batch ID: **67237**	RunNo: **87785**
Prep Date: **5/3/2022**	Analysis Date: **5/5/2022**	SeqNo: **3109350** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	24.95	1.715	81.9	61.1	127	4.55	20	
Surr: BFB	530		499.0		107	70	130	0	0	

Sample ID: **LCS-67237**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **67237**	RunNo: **87785**
Prep Date: **5/3/2022**	Analysis Date: **5/5/2022**	SeqNo: **3109370** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.9	70	130			
Surr: BFB	550		500.0		110	70	130			

Sample ID: **mb-67237**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **67237**	RunNo: **87785**
Prep Date: **5/3/2022**	Analysis Date: **5/5/2022**	SeqNo: **3109371** 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	550		500.0		110	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Devon Energy | Work Order Number: 2205058 | RcptNo: 1

Received By: Juan Rojas 5/3/2022 7:00:00 AM

Completed By: Sean Livingston 5/3/2022 8:33:14 AM

Reviewed By: KPL 5.3.22

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: JM 5/3/22

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good				

Chain-of-Custody Record

Client: Devon

Mailing Address: On File

Phone #:

email or Fax#:

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

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

Turn-Around Time: 5-Day
☑ Standard ☐ Rush

Project Name: Gaucho #6 (Battery)

Project #: 22E-01101

Project Manager: Monica Peppin

Sampler: CJ

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 1.6+0.1=1.7 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2205058	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/29	10:00	Soil	BH22-01 0'	4 oz	Ice	001	✓	✓					✓			
	10:10		BH22-02 0'			002										
	10:20		BH22-03 0'			003										
	10:30		BH22-04 0'			004										
	10:40		BH22-04 4'			005										
	10:50		BH22-04 8'			006										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
5/2/22	1255				5/2/22	1255
5/2/22	1900			courier	5/3/22	7:00

Remarks: CC: Chance Dixon
Direct Bill Devon

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 07, 2022

Monica Peppin

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

RE: Gaucho 6 Battery OrderNo.: 2206D53

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 4 sample(s) on 6/24/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2206D53**
Date Reported: **7/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-01
Project: Gaucho 6 Battery
Collection Date: 6/22/2022 9:30:00 AM
Lab ID: 2206D53-001 **Matrix:** SOIL
Received Date: 6/24/2022 8:16:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	6/30/2022 4:43:26 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/30/2022 4:43:26 AM
Surr: DNOP	86.3	51.1-141		%Rec	1	6/30/2022 4:43:26 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/28/2022 5:07:56 PM
Surr: BFB	104	37.7-212		%Rec	1	6/28/2022 5:07:56 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	6/28/2022 5:07:56 PM
Toluene	ND	0.047		mg/Kg	1	6/28/2022 5:07:56 PM
Ethylbenzene	ND	0.047		mg/Kg	1	6/28/2022 5:07:56 PM
Xylenes, Total	ND	0.095		mg/Kg	1	6/28/2022 5:07:56 PM
Surr: 4-Bromofluorobenzene	96.3	70-130		%Rec	1	6/28/2022 5:07:56 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	6/29/2022 7:43:24 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	Estimated value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference

Analytical Report
Lab Order **2206D53**
Date Reported: **7/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-02
Project: Gaucho 6 Battery
Collection Date: 6/22/2022 9:35:00 AM
Lab ID: 2206D53-002 **Matrix:** SOIL
Received Date: 6/24/2022 8:16:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	6/30/2022 5:07:14 AM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	6/30/2022 5:07:14 AM
Surr: DNOP	105	51.1-141		%Rec	1	6/30/2022 5:07:14 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/29/2022 12:11:18 AM
Surr: BFB	94.2	37.7-212		%Rec	1	6/29/2022 12:11:18 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	6/29/2022 12:11:18 AM
Toluene	ND	0.048		mg/Kg	1	6/29/2022 12:11:18 AM
Ethylbenzene	ND	0.048		mg/Kg	1	6/29/2022 12:11:18 AM
Xylenes, Total	ND	0.096		mg/Kg	1	6/29/2022 12:11:18 AM
Surr: 4-Bromofluorobenzene	90.9	70-130		%Rec	1	6/29/2022 12:11:18 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	6/29/2022 8:20:38 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2206D53**
Date Reported: **7/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-03
Project: Gaucho 6 Battery
Collection Date: 6/22/2022 9:40:00 AM
Lab ID: 2206D53-003 **Matrix:** SOIL **Received Date:** 6/24/2022 8:16:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	6/30/2022 5:31:03 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/30/2022 5:31:03 AM
Surr: DNOP	92.6	51.1-141		%Rec	1	6/30/2022 5:31:03 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	6/29/2022 12:34:42 AM
Surr: BFB	95.9	37.7-212		%Rec	1	6/29/2022 12:34:42 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	6/29/2022 12:34:42 AM
Toluene	ND	0.046		mg/Kg	1	6/29/2022 12:34:42 AM
Ethylbenzene	ND	0.046		mg/Kg	1	6/29/2022 12:34:42 AM
Xylenes, Total	ND	0.093		mg/Kg	1	6/29/2022 12:34:42 AM
Surr: 4-Bromofluorobenzene	92.7	70-130		%Rec	1	6/29/2022 12:34:42 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	6/29/2022 9:22:42 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2206D53**
Date Reported: **7/7/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BES22-01
Project: Gaucho 6 Battery
Collection Date: 6/22/2022 9:45:00 AM
Lab ID: 2206D53-004 **Matrix:** SOIL **Received Date:** 6/24/2022 8:16:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	6/30/2022 5:54:54 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/30/2022 5:54:54 AM
Surr: DNOP	92.1	51.1-141		%Rec	1	6/30/2022 5:54:54 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/29/2022 12:58:10 AM
Surr: BFB	100	37.7-212		%Rec	1	6/29/2022 12:58:10 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	6/29/2022 12:58:10 AM
Toluene	ND	0.047		mg/Kg	1	6/29/2022 12:58:10 AM
Ethylbenzene	ND	0.047		mg/Kg	1	6/29/2022 12:58:10 AM
Xylenes, Total	ND	0.095		mg/Kg	1	6/29/2022 12:58:10 AM
Surr: 4-Bromofluorobenzene	94.6	70-130		%Rec	1	6/29/2022 12:58:10 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	6/29/2022 9:35:07 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	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2206D53**

07-Jul-22

Client: Devon Energy

Project: Gaucho 6 Battery

Sample ID: **MB-68444**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **68444**	RunNo: **89143**
Prep Date: **6/29/2022**	Analysis Date: **6/29/2022**	SeqNo: **3167724** Units: **mg/Kg**

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

Sample ID: **LCS-68444**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **68444**	RunNo: **89143**
Prep Date: **6/29/2022**	Analysis Date: **6/29/2022**	SeqNo: **3167725** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.6	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2206D53**

07-Jul-22

Client: Devon Energy

Project: Gaucho 6 Battery

Sample ID: **MB-68386**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **68386**	RunNo: **89114**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3168753** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.6		10.00		96.1	51.1	141			

Sample ID: **LCS-68386**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **68386**	RunNo: **89114**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3168754** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.1		5.000		102	51.1	141			

Sample ID: **MB-68415**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **68415**	RunNo: **89114**
Prep Date: **6/28/2022**	Analysis Date: **6/30/2022**	SeqNo: **3170264** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.5		10.00		94.5	51.1	141			

Sample ID: **LCS-68415**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **68415**	RunNo: **89114**
Prep Date: **6/28/2022**	Analysis Date: **6/30/2022**	SeqNo: **3170265** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	15	50.00	0	98.8	64.4	127			
Surr: DNOP	5.1		5.000		103	51.1	141			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2206D53**

07-Jul-22

Client: Devon Energy

Project: Gaucho 6 Battery

Sample ID: **lcs-68381**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **68381**	RunNo: **89080**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3164760** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2000		1000		196	37.7	212			

Sample ID: **mb-68381**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **68381**	RunNo: **89080**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3164761** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	870		1000		87.5	37.7	212			

Sample ID: **mb-68382**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **68382**	RunNo: **89090**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3165011** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	37.7	212			

Sample ID: **lcs-68382**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **68382**	RunNo: **89090**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3165012** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	114	72.3	137			
Surr: BFB	2200		1000		218	37.7	212			S

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2206D53**

07-Jul-22

Client: Devon Energy

Project: Gaucho 6 Battery

Sample ID: **lcs-68381**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **68381**	RunNo: **89080**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3164770** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.86		1.000		85.6	70	130			

Sample ID: **mb-68381**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **68381**	RunNo: **89080**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3164771** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.85		1.000		85.2	70	130			

Sample ID: **mb-68382**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **68382**	RunNo: **89090**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3165039** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		94.7	70	130			

Sample ID: **LCS-68382**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **68382**	RunNo: **89090**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3165040** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	84.9	80	120			
Toluene	0.90	0.050	1.000	0	89.6	80	120			
Ethylbenzene	0.91	0.050	1.000	0	90.8	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.1	80	120			
Surr: 4-Bromofluorobenzene	0.98		1.000		98.0	70	130			

Sample ID: **2206d53-001ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **WES22-01**	Batch ID: **68382**	RunNo: **89090**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3165043** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.024	0.9515	0	89.2	68.8	120			
Toluene	0.90	0.048	0.9515	0	94.4	73.6	124			
Ethylbenzene	0.91	0.048	0.9515	0	95.2	72.7	129			
Xylenes, Total	2.8	0.095	2.854	0	96.5	75.7	126			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2206D53**

07-Jul-22

Client: Devon Energy

Project: Gaucho 6 Battery

Sample ID: **2206d53-001ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **WES22-01**	Batch ID: **68382**	RunNo: **89090**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3165043** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.89		0.9515		93.4	70	130			

Sample ID: **2206d53-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **WES22-01**	Batch ID: **68382**	RunNo: **89090**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3165044** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.024	0.9434	0	87.9	68.8	120	2.31	20	
Toluene	0.87	0.047	0.9434	0	92.7	73.6	124	2.67	20	
Ethylbenzene	0.88	0.047	0.9434	0	93.3	72.7	129	2.82	20	
Xylenes, Total	2.7	0.094	2.830	0	95.0	75.7	126	2.37	20	
Surr: 4-Bromofluorobenzene	0.94		0.9434		100	70	130	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **Devon Energy** Work Order Number: **2206D53** RcptNo: 1

Received By: **Kasandra Payan** **6/24/2022 8:16:00 AM**

Completed By: **Cheyenne Cason** **6/24/2022 9:16:37 AM**

Reviewed By: DAD 6/24/22

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: CMC 6/24/22

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Not Present			
2	0.8	Good	Not Present			

Chain-of-Custody Record

Client: Devon

Mailing Address: On File

Phone #:

email or Fax#:

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

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

Turn-Around Time: 5-Day
☑ Standard ☑ Rush

Project Name: Gaucho 6 Battery

Project #: 22E-01101-001

Project Manager: Monica Peppin

Sampler: CD

On Ice: ☑ Yes ☐ No

# of Coolers: 2 2.2-0.2=2.0 ambient

Cooler Temp(including CF): ~~12.0-0.2=11.8~~ 1.0-0.2=0.8 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2206053	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
6/22	9:30	Soil	WES22-01	4 oz	ICE	001	✓	✓					✓			
	9:35		WES22-02			002										
	9:40		WES22-03			003										
	9:45		~~BES22-01~~ BES22-01			004										
	~~11:00~~															
	~~11:05~~															

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
			CC		6/23/22	1200
6/23/22	1900	CC		courier	6-24-22	8:16

Remarks: CC: Chance Dixon
Direct Bill Devon Energy
WO#: N/A

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

Analysis Request

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 14, 2022

Monica Peppin

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

RE: Gaucho Unit 6 Containment Area OrderNo.: 2207428

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 1 sample(s) on 7/9/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2207428**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-04
Project: Gaucho Unit 6 Containment Area
Collection Date: 7/7/2022 12:00:00 PM
Lab ID: 2207428-001 **Matrix:** SOIL
Received Date: 7/9/2022 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	7/13/2022 4:14:50 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/13/2022 4:14:50 AM
Surr: DNOP	79.1	51.1-141		%Rec	1	7/13/2022 4:14:50 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/12/2022 9:40:18 PM
Surr: BFB	94.1	37.7-212		%Rec	1	7/12/2022 9:40:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	7/12/2022 9:40:18 PM
Toluene	ND	0.050		mg/Kg	1	7/12/2022 9:40:18 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/12/2022 9:40:18 PM
Xylenes, Total	ND	0.099		mg/Kg	1	7/12/2022 9:40:18 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	7/12/2022 9:40:18 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	180	60		mg/Kg	20	7/12/2022 6:03:04 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	Estimated value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2207428**

14-Jul-22

Client: Devon Energy

Project: Gaucho Unit 6 Containment Area

Sample ID: **MB-68734**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **68734**	RunNo: **89440**
Prep Date: **7/12/2022**	Analysis Date: **7/12/2022**	SeqNo: **3181959** Units: **mg/Kg**

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

Sample ID: **LCS-68734**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **68734**	RunNo: **89440**
Prep Date: **7/12/2022**	Analysis Date: **7/12/2022**	SeqNo: **3181960** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.8	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2207428**

14-Jul-22

Client: Devon Energy

Project: Gaucho Unit 6 Containment Area

Sample ID: **MB-68675**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **68675**	RunNo: **89401**
Prep Date: **7/11/2022**	Analysis Date: **7/12/2022**	SeqNo: **3180414** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		96.2	51.1	141			

Sample ID: **LCS-68675**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **68675**	RunNo: **89401**
Prep Date: **7/11/2022**	Analysis Date: **7/12/2022**	SeqNo: **3180415** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	15	50.00	0	96.9	64.4	127			
Surr: DNOP	4.8		5.000		96.3	51.1	141			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2207428**

14-Jul-22

Client: Devon Energy

Project: Gaucho Unit 6 Containment Area

Sample ID: **mb-68666**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **68666**	RunNo: **89410**
Prep Date: **7/10/2022**	Analysis Date: **7/12/2022**	SeqNo: **3180627** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	960		1000		96.1	37.7	212			

Sample ID: **lcs-68666**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **68666**	RunNo: **89410**
Prep Date: **7/10/2022**	Analysis Date: **7/12/2022**	SeqNo: **3180628** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	102	72.3	137			
Surr: BFB	2000		1000		196	37.7	212			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2207428**

14-Jul-22

Client: Devon Energy

Project: Gaucho Unit 6 Containment Area

Sample ID: **mb-68666**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **68666**	RunNo: **89410**
Prep Date: **7/10/2022**	Analysis Date: **7/12/2022**	SeqNo: **3180658** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	70	130			

Sample ID: **LCS-68666**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **68666**	RunNo: **89410**
Prep Date: **7/10/2022**	Analysis Date: **7/12/2022**	SeqNo: **3180659** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.6	80	120			
Toluene	0.99	0.050	1.000	0	99.1	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.8	80	120			
Xylenes, Total	3.0	0.10	3.000	0	100	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		105	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Devon Energy Work Order Number: 2207428 RcptNo: 1

Received By: Sean Livingston 7/9/2022 9:30:00 AM Sean Livingston

Completed By: Sean Livingston 7/12/2022 9:36:48 AM Sean Livingston

Reviewed By: SCL 7/9/22

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: SCL 7/9/22

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good				
2	3.6	Good				
3	3.9	Good				

Chain-of-Custody Record

Client: Devon Energy
W. Mathews / D. Woodall
Mailing Address:

Phone #:
email or Fax#:
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: 48 hr
☐ Standard ☑ Rush
Project Name: Gaucho Unit #6 Containment Area
Project #: 22E-01101
Project Manager: Monica Peppin
Sampler:
On Ice: ☑ Yes ☐ No
# of Coolers: 3
Cooler Temp(including CF): CF (-0.1) (°C) 2.1°, 3.6°, 2.9°C

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2207428	Analysis Request: BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
7-7-22	12:00	soil	WES22-04	4oz	ice	001	✓	✓					✓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
7-8-2022	06:30				7/8/22	1100
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
7/8/22	1900		See courier		7/9/22	9:30

Remarks:
W/O#: 2109313
Direct bill Devon
CC: M. Peppin
Final Report

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

May 09, 2022

Monica Peppin

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

RE: Gaucho 6 Heater Treater OrderNo.: 2204C83

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 6 sample(s) on 4/29/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2204C83**
Date Reported: **5/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-01 2'
Project: Gaucho 6 Heater Treater
Collection Date: 4/27/2022 10:00:00 AM
Lab ID: 2204C83-001 **Matrix:** SOIL **Received Date:** 4/29/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	5/3/2022 5:40:37 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/3/2022 5:40:37 PM
Surr: DNOP	94.1	51.1-141		%Rec	1	5/3/2022 5:40:37 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/3/2022 4:06:00 AM
Surr: BFB	103	37.7-212		%Rec	1	5/3/2022 4:06:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	5/3/2022 4:06:00 AM
Toluene	ND	0.050		mg/Kg	1	5/3/2022 4:06:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	5/3/2022 4:06:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	5/3/2022 4:06:00 AM
Surr: 4-Bromofluorobenzene	83.2	70-130		%Rec	1	5/3/2022 4:06:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	ND	59		mg/Kg	20	5/4/2022 9:33:20 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2204C83**
Date Reported: **5/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-03 0'
Project: Gaucho 6 Heater Treater
Collection Date: 4/27/2022 10:15:00 AM
Lab ID: 2204C83-002 **Matrix:** SOIL
Received Date: 4/29/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	12	9.7		mg/Kg	1	5/3/2022 6:02:23 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/3/2022 6:02:23 PM
Surr: DNOP	121	51.1-141		%Rec	1	5/3/2022 6:02:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/3/2022 4:26:00 AM
Surr: BFB	103	37.7-212		%Rec	1	5/3/2022 4:26:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	5/3/2022 4:26:00 AM
Toluene	ND	0.049		mg/Kg	1	5/3/2022 4:26:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/3/2022 4:26:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	5/3/2022 4:26:00 AM
Surr: 4-Bromofluorobenzene	84.6	70-130		%Rec	1	5/3/2022 4:26:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	96	60		mg/Kg	20	5/4/2022 10:10:35 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2204C83**
Date Reported: **5/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-04 2'
Project: Gaucho 6 Heater Treater
Collection Date: 4/27/2022 10:30:00 AM
Lab ID: 2204C83-003 **Matrix:** SOIL **Received Date:** 4/29/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	5/3/2022 6:13:18 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/3/2022 6:13:18 PM
Surr: DNOP	109	51.1-141		%Rec	1	5/3/2022 6:13:18 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/3/2022 4:46:00 AM
Surr: BFB	102	37.7-212		%Rec	1	5/3/2022 4:46:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	5/3/2022 4:46:00 AM
Toluene	ND	0.049		mg/Kg	1	5/3/2022 4:46:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/3/2022 4:46:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	5/3/2022 4:46:00 AM
Surr: 4-Bromofluorobenzene	83.7	70-130		%Rec	1	5/3/2022 4:46:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	ND	60		mg/Kg	20	5/4/2022 10:23:00 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	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2204C83**
Date Reported: **5/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-06 2'
Project: Gaucho 6 Heater Treater
Collection Date: 4/27/2022 10:50:00 AM
Lab ID: 2204C83-004 **Matrix:** SOIL **Received Date:** 4/29/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/3/2022 6:24:16 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/3/2022 6:24:16 PM
Surr: DNOP	121	51.1-141		%Rec	1	5/3/2022 6:24:16 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/3/2022 5:06:00 AM
Surr: BFB	98.8	37.7-212		%Rec	1	5/3/2022 5:06:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	5/3/2022 5:06:00 AM
Toluene	ND	0.050		mg/Kg	1	5/3/2022 5:06:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	5/3/2022 5:06:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	5/3/2022 5:06:00 AM
Surr: 4-Bromofluorobenzene	82.0	70-130		%Rec	1	5/3/2022 5:06:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	ND	60		mg/Kg	20	5/4/2022 10:35:24 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	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2204C83**
Date Reported: **5/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-07 0'
Project: Gaucho 6 Heater Treater
Collection Date: 4/27/2022 1:00:00 PM
Lab ID: 2204C83-005 **Matrix:** SOIL
Received Date: 4/29/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	15	9.3		mg/Kg	1	5/3/2022 6:35:14 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/3/2022 6:35:14 PM
Surr: DNOP	82.3	51.1-141		%Rec	1	5/3/2022 6:35:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/3/2022 5:25:00 AM
Surr: BFB	100	37.7-212		%Rec	1	5/3/2022 5:25:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	5/3/2022 5:25:00 AM
Toluene	ND	0.049		mg/Kg	1	5/3/2022 5:25:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/3/2022 5:25:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	5/3/2022 5:25:00 AM
Surr: 4-Bromofluorobenzene	80.6	70-130		%Rec	1	5/3/2022 5:25:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	63	60		mg/Kg	20	5/4/2022 10:47:49 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	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2204C83**
Date Reported: **5/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-11 0'
Project: Gaucho 6 Heater Treater
Collection Date: 4/27/2022 1:20:00 PM
Lab ID: 2204C83-006 **Matrix:** SOIL **Received Date:** 4/29/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	5/3/2022 6:46:09 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/3/2022 6:46:09 PM
Surr: DNOP	95.2	51.1-141		%Rec	1	5/3/2022 6:46:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/2/2022 11:12:02 PM
Surr: BFB	109	37.7-212		%Rec	1	5/2/2022 11:12:02 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	5/2/2022 11:12:02 PM
Toluene	ND	0.049		mg/Kg	1	5/2/2022 11:12:02 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/2/2022 11:12:02 PM
Xylenes, Total	ND	0.098		mg/Kg	1	5/2/2022 11:12:02 PM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	5/2/2022 11:12:02 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	ND	60		mg/Kg	20	5/4/2022 11:25:02 PM

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2204C83**
09-May-22

Client: Devon Energy
Project: Gaucho 6 Heater Treater

Sample ID: **MB-67267**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **67267**	RunNo: **87756**							
Prep Date: **5/4/2022**	Analysis Date: **5/4/2022**	SeqNo: **3108183**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-67267**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **67267**	RunNo: **87756**							
Prep Date: **5/4/2022**	Analysis Date: **5/4/2022**	SeqNo: **3108184**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.2	90	110			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2204C83**
09-May-22

Client: Devon Energy
Project: Gaucho 6 Heater Treater

Sample ID: **LCS-67196** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **67196** RunNo: **87693**
Prep Date: **5/2/2022** Analysis Date: **5/3/2022** SeqNo: **3105199** 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	68.9	135			
Surr: DNOP	4.9		5.000		98.1	51.1	141			

Sample ID: **MB-67196** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **67196** RunNo: **87693**
Prep Date: **5/2/2022** Analysis Date: **5/3/2022** SeqNo: **3105200** 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	16		10.00		159	51.1	141			S

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2204C83**
09-May-22

Client: Devon Energy
Project: Gaucho 6 Heater Treater

Sample ID: **mb-67169** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **67169** RunNo: **87658**
Prep Date: **4/29/2022** Analysis Date: **5/3/2022** SeqNo: **3103540** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		111	37.7	212			

Sample ID: **lcs-67169** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **67169** RunNo: **87658**
Prep Date: **4/29/2022** Analysis Date: **5/2/2022** SeqNo: **3103541** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	72.3	137			
Surr: BFB	2100		1000		214	37.7	212			S

Sample ID: **2204c83-006ams** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH22-11 0'** Batch ID: **67169** RunNo: **87658**
Prep Date: **4/29/2022** Analysis Date: **5/2/2022** SeqNo: **3103543** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.9	24.61	0	114	70	130			
Surr: BFB	2300		984.3		229	37.7	212			S

Sample ID: **2204c83-006amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH22-11 0'** Batch ID: **67169** RunNo: **87658**
Prep Date: **4/29/2022** Analysis Date: **5/2/2022** SeqNo: **3103544** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	24.88	0	103	70	130	8.50	20	
Surr: BFB	2200		995.0		221	37.7	212	0	0	S

Sample ID: **lcs-67167** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **67167** RunNo: **87661**
Prep Date: **4/29/2022** Analysis Date: **5/2/2022** SeqNo: **3103657** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	111	72.3	137			
Surr: BFB	2300		1000		226	37.7	212			S

Sample ID: **mb-67167** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **67167** RunNo: **87661**
Prep Date: **4/29/2022** Analysis Date: **5/2/2022** SeqNo: **3103658** Units: **mg/Kg**

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2204C83**
09-May-22

Client: Devon Energy
Project: Gaucho 6 Heater Treater

Sample ID: **mb-67167** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **67167** RunNo: **87661**
Prep Date: **4/29/2022** Analysis Date: **5/2/2022** SeqNo: **3103658** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		104	37.7	212			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204C83**

09-May-22

Client: Devon Energy

Project: Gaucho 6 Heater Treater

Sample ID: **mb-67169** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **67169** RunNo: **87658**

Prep Date: **4/29/2022** Analysis Date: **5/3/2022** SeqNo: **3103587** 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		112	70	130			

Sample ID: **LCS-67169** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **67169** RunNo: **87658**

Prep Date: **4/29/2022** Analysis Date: **5/2/2022** SeqNo: **3103588** 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	89.6	80	120			
Toluene	0.93	0.050	1.000	0	93.4	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.1	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.6	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	70	130			

Sample ID: **lcs-67167** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **67167** RunNo: **87661**

Prep Date: **4/29/2022** Analysis Date: **5/2/2022** SeqNo: **3103705** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.3	80	120			
Toluene	0.93	0.050	1.000	0	93.2	80	120			
Ethylbenzene	0.94	0.050	1.000	0	94.2	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.6	80	120			
Surr: 4-Bromofluorobenzene	0.82		1.000		82.4	70	130			

Sample ID: **mb-67167** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **67167** RunNo: **87661**

Prep Date: **4/29/2022** Analysis Date: **5/2/2022** SeqNo: **3103706** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.84		1.000		84.1	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Devon Energy | Work Order Number: 2204C83 | RcptNo: 1

Received By: Juan Rojas 4/29/2022 7:10:00 AM

Completed By: Sean Livingston 4/29/2022 8:12:45 AM

Reviewed By: KPG 4-29-22

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: JN 4/29/22

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.8	Good				
2	1.6	Good				

Chain-of-Custody Record

Client: Devon

Mailing Address: on File

Phone #:

email or Fax#:

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

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

Turn-Around Time: 5-Day
☐ Standard ☒ Rush

Project Name: GAUCHO #6 (Heater Treater)

Project #: 22E-01101-002

Project Manager: Monica Peppin

Sampler: CD

On Ice: ☐ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 16.0+1.C (°C)
0.5-0=0.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2204693	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/27	10:00	Soil	BH22-01 2' *	4oz	Ice	001	✓	✓					✓			
	10:15		BH22-03 0' *			002										
	10:30		BH22-04 2' *			003										
	10:50		BH22-06 2' *			004										
	1:00		BH22-07 0' *			005										
	1:20		BH22-11 0' *			006										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					4/28/22	1030
Date: 4/28/22	Time: 1900	Relinquished by:	Received by:	Via: Courier	Date 4/29/22	Time 7:10

Remarks: CC: Chance Dixon
Direct Bill Dale Woodall @ Devon
* = water infiltrated soil jar.

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

JC 4-29-22

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

May 13, 2022

Monica Peppin

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

RE: Gaucho 6 Heater Treater OrderNo.: 2204D50

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 14 sample(s) on 4/30/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2204D50**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-08 2'
Project: Gaucho 6 Heater Treater
Collection Date: 4/28/2022 10:00:00 AM
Lab ID: 2204D50-001 **Matrix:** SOIL
Received Date: 4/30/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	5/5/2022 5:53:07 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	5/5/2022 5:53:07 PM
Surr: DNOP	96.1	51.1-141		%Rec	1	5/5/2022 5:53:07 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/5/2022 11:24:00 AM
Surr: BFB	104	37.7-212		%Rec	1	5/5/2022 11:24:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	5/5/2022 11:24:00 AM
Toluene	ND	0.048		mg/Kg	1	5/5/2022 11:24:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/5/2022 11:24:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	5/5/2022 11:24:00 AM
Surr: 4-Bromofluorobenzene	83.8	70-130		%Rec	1	5/5/2022 11:24:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	5/6/2022 3:16:29 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	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2204D50**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-09 2'
Project: Gaucho 6 Heater Treater
Collection Date: 4/28/2022 10:05:00 AM
Lab ID: 2204D50-002 **Matrix:** SOIL
Received Date: 4/30/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	5/5/2022 6:06:43 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/5/2022 6:06:43 PM
Surr: DNOP	104	51.1-141		%Rec	1	5/5/2022 6:06:43 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/5/2022 11:44:00 AM
Surr: BFB	101	37.7-212		%Rec	1	5/5/2022 11:44:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	5/5/2022 11:44:00 AM
Toluene	ND	0.049		mg/Kg	1	5/5/2022 11:44:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/5/2022 11:44:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	5/5/2022 11:44:00 AM
Surr: 4-Bromofluorobenzene	83.3	70-130		%Rec	1	5/5/2022 11:44:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	5/6/2022 3:28:50 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	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2204D50**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-10 2'
Project: Gaucho 6 Heater Treater
Collection Date: 4/28/2022 10:10:00 AM
Lab ID: 2204D50-003 **Matrix:** SOIL
Received Date: 4/30/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	5/5/2022 6:20:20 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	5/5/2022 6:20:20 PM
Surr: DNOP	105	51.1-141		%Rec	1	5/5/2022 6:20:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/5/2022 12:03:00 PM
Surr: BFB	95.4	37.7-212		%Rec	1	5/5/2022 12:03:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	5/5/2022 12:03:00 PM
Toluene	ND	0.049		mg/Kg	1	5/5/2022 12:03:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/5/2022 12:03:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	5/5/2022 12:03:00 PM
Surr: 4-Bromofluorobenzene	80.8	70-130		%Rec	1	5/5/2022 12:03:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	5/6/2022 4:05:51 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2204D50**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-12 0'
Project: Gaucho 6 Heater Treater
Collection Date: 4/28/2022 10:15:00 AM
Lab ID: 2204D50-004 **Matrix:** SOIL
Received Date: 4/30/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	5/5/2022 6:33:58 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	5/5/2022 6:33:58 PM
Surr: DNOP	102	51.1-141		%Rec	1	5/5/2022 6:33:58 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/5/2022 12:23:00 PM
Surr: BFB	103	37.7-212		%Rec	1	5/5/2022 12:23:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	5/5/2022 12:23:00 PM
Toluene	ND	0.049		mg/Kg	1	5/5/2022 12:23:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/5/2022 12:23:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	5/5/2022 12:23:00 PM
Surr: 4-Bromofluorobenzene	82.5	70-130		%Rec	1	5/5/2022 12:23:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	5/6/2022 4:42:54 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2204D50**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-13 0'
Project: Gaucho 6 Heater Treater
Collection Date: 4/28/2022 10:20:00 AM
Lab ID: 2204D50-005 **Matrix:** SOIL
Received Date: 4/30/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	5/5/2022 6:47:30 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/5/2022 6:47:30 PM
Surr: DNOP	103	51.1-141		%Rec	1	5/5/2022 6:47:30 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/5/2022 12:43:00 PM
Surr: BFB	103	37.7-212		%Rec	1	5/5/2022 12:43:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	5/5/2022 12:43:00 PM
Toluene	ND	0.050		mg/Kg	1	5/5/2022 12:43:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/5/2022 12:43:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	5/5/2022 12:43:00 PM
Surr: 4-Bromofluorobenzene	84.0	70-130		%Rec	1	5/5/2022 12:43:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	5/6/2022 4:55:15 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2204D50**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-14 0'
Project: Gaucho 6 Heater Treater
Collection Date: 4/28/2022 10:25:00 AM
Lab ID: 2204D50-006 **Matrix:** SOIL
Received Date: 4/30/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/5/2022 7:01:00 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/5/2022 7:01:00 PM
Surr: DNOP	105	51.1-141		%Rec	1	5/5/2022 7:01:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/5/2022 1:02:00 PM
Surr: BFB	104	37.7-212		%Rec	1	5/5/2022 1:02:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	5/5/2022 1:02:00 PM
Toluene	ND	0.050		mg/Kg	1	5/5/2022 1:02:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/5/2022 1:02:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/5/2022 1:02:00 PM
Surr: 4-Bromofluorobenzene	83.7	70-130		%Rec	1	5/5/2022 1:02:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	5/6/2022 5:07:36 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2204D50**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho 6 Heater Treater
Lab ID: 2204D50-007 **Matrix:** SOIL

Client Sample ID: BH22-15 0'
Collection Date: 4/28/2022 10:30:00 AM
Received Date: 4/30/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	1100	44		mg/Kg	5	5/6/2022 4:17:56 PM
Motor Oil Range Organics (MRO)	390	220		mg/Kg	5	5/6/2022 4:17:56 PM
Surr: DNOP	97.3	51.1-141		%Rec	5	5/6/2022 4:17:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	120	25		mg/Kg	5	5/5/2022 1:22:00 PM
Surr: BFB	185	37.7-212		%Rec	5	5/5/2022 1:22:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.12	D	mg/Kg	5	5/5/2022 1:22:00 PM
Toluene	ND	0.25	D	mg/Kg	5	5/5/2022 1:22:00 PM
Ethylbenzene	0.36	0.25	D	mg/Kg	5	5/5/2022 1:22:00 PM
Xylenes, Total	3.0	0.50	D	mg/Kg	5	5/5/2022 1:22:00 PM
Surr: 4-Bromofluorobenzene	111	70-130	D	%Rec	5	5/5/2022 1:22:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	5/6/2022 5:44:38 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2204D50**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-15 3'
Project: Gaucho 6 Heater Treater
Collection Date: 4/28/2022 10:35:00 AM
Lab ID: 2204D50-008 **Matrix:** SOIL
Received Date: 4/30/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	3600	91		mg/Kg	10	5/9/2022 11:44:04 AM
Motor Oil Range Organics (MRO)	950	460		mg/Kg	10	5/9/2022 11:44:04 AM
Surr: DNOP	0	51.1-141	S	%Rec	10	5/9/2022 11:44:04 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	120	60		mg/Kg	20	5/6/2022 5:56:59 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	0.16	0.024		mg/Kg	1	5/5/2022 12:54:55 PM
Toluene	3.4	0.048		mg/Kg	1	5/5/2022 12:54:55 PM
Ethylbenzene	1.3	0.048		mg/Kg	1	5/5/2022 12:54:55 PM
Xylenes, Total	12	0.097		mg/Kg	1	5/5/2022 12:54:55 PM
Surr: 1,2-Dichloroethane-d4	92.1	70-130		%Rec	1	5/5/2022 12:54:55 PM
Surr: 4-Bromofluorobenzene	155	70-130	S	%Rec	1	5/5/2022 12:54:55 PM
Surr: Dibromofluoromethane	97.3	70-130		%Rec	1	5/5/2022 12:54:55 PM
Surr: Toluene-d8	118	70-130		%Rec	1	5/5/2022 12:54:55 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	980	48		mg/Kg	10	5/6/2022 2:27:34 PM
Surr: BFB	124	70-130		%Rec	10	5/6/2022 2:27:34 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2204D50**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-15 6'
Project: Gaucho 6 Heater Treater
Collection Date: 4/28/2022 10:40:00 AM
Lab ID: 2204D50-009 **Matrix:** SOIL
Received Date: 4/30/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	5/6/2022 3:41:20 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	5/6/2022 3:41:20 PM
Surr: DNOP	103	51.1-141		%Rec	1	5/6/2022 3:41:20 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	5/6/2022 6:34:02 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	5/5/2022 2:16:15 PM
Toluene	ND	0.050		mg/Kg	1	5/5/2022 2:16:15 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/5/2022 2:16:15 PM
Xylenes, Total	ND	0.099		mg/Kg	1	5/5/2022 2:16:15 PM
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	5/5/2022 2:16:15 PM
Surr: 4-Bromofluorobenzene	88.1	70-130		%Rec	1	5/5/2022 2:16:15 PM
Surr: Dibromofluoromethane	111	70-130		%Rec	1	5/5/2022 2:16:15 PM
Surr: Toluene-d8	110	70-130		%Rec	1	5/5/2022 2:16:15 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	9.0	5.0		mg/Kg	1	5/5/2022 2:16:15 PM
Surr: BFB	108	70-130		%Rec	1	5/5/2022 2:16:15 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2204D50**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-16 0'
Project: Gaucho 6 Heater Treater
Collection Date: 4/28/2022 10:45:00 AM
Lab ID: 2204D50-010 **Matrix:** SOIL
Received Date: 4/30/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	390	9.2		mg/Kg	1	5/6/2022 4:05:08 PM
Motor Oil Range Organics (MRO)	210	46		mg/Kg	1	5/6/2022 4:05:08 PM
Surr: DNOP	114	51.1-141		%Rec	1	5/6/2022 4:05:08 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	370	60		mg/Kg	20	5/6/2022 6:46:22 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	5/5/2022 3:37:24 PM
Toluene	ND	0.050		mg/Kg	1	5/5/2022 3:37:24 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/5/2022 3:37:24 PM
Xylenes, Total	ND	0.099		mg/Kg	1	5/5/2022 3:37:24 PM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	5/5/2022 3:37:24 PM
Surr: 4-Bromofluorobenzene	92.0	70-130		%Rec	1	5/5/2022 3:37:24 PM
Surr: Dibromofluoromethane	107	70-130		%Rec	1	5/5/2022 3:37:24 PM
Surr: Toluene-d8	103	70-130		%Rec	1	5/5/2022 3:37:24 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/5/2022 3:37:24 PM
Surr: BFB	98.4	70-130		%Rec	1	5/5/2022 3:37:24 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2204D50**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-17 0'
Project: Gaucho 6 Heater Treater
Collection Date: 4/28/2022 10:55:00 AM
Lab ID: 2204D50-011 **Matrix:** SOIL
Received Date: 4/30/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	5900	97		mg/Kg	10	5/7/2022 2:23:25 AM
Motor Oil Range Organics (MRO)	3400	480		mg/Kg	10	5/7/2022 2:23:25 AM
Surr: DNOP	0	51.1-141	S	%Rec	10	5/7/2022 2:23:25 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	4000	150		mg/Kg	50	5/10/2022 2:22:20 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	5/5/2022 4:04:26 PM
Toluene	0.14	0.050		mg/Kg	1	5/5/2022 4:04:26 PM
Ethylbenzene	0.18	0.050		mg/Kg	1	5/5/2022 4:04:26 PM
Xylenes, Total	1.1	0.099		mg/Kg	1	5/5/2022 4:04:26 PM
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	5/5/2022 4:04:26 PM
Surr: 4-Bromofluorobenzene	93.8	70-130		%Rec	1	5/5/2022 4:04:26 PM
Surr: Dibromofluoromethane	109	70-130		%Rec	1	5/5/2022 4:04:26 PM
Surr: Toluene-d8	107	70-130		%Rec	1	5/5/2022 4:04:26 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	24	5.0		mg/Kg	1	5/5/2022 4:04:26 PM
Surr: BFB	107	70-130		%Rec	1	5/5/2022 4:04:26 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2204D50**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-17 3'
Project: Gaucho 6 Heater Treater
Collection Date: 4/28/2022 11:00:00 AM
Lab ID: 2204D50-012 **Matrix:** SOIL
Received Date: 4/30/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	380	9.8		mg/Kg	1	5/6/2022 4:28:56 PM
Motor Oil Range Organics (MRO)	210	49		mg/Kg	1	5/6/2022 4:28:56 PM
Surr: DNOP	116	51.1-141		%Rec	1	5/6/2022 4:28:56 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	440	60		mg/Kg	20	5/6/2022 7:11:03 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	5/5/2022 4:31:28 PM
Toluene	ND	0.050		mg/Kg	1	5/5/2022 4:31:28 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/5/2022 4:31:28 PM
Xylenes, Total	ND	0.099		mg/Kg	1	5/5/2022 4:31:28 PM
Surr: 1,2-Dichloroethane-d4	117	70-130		%Rec	1	5/5/2022 4:31:28 PM
Surr: 4-Bromofluorobenzene	88.0	70-130		%Rec	1	5/5/2022 4:31:28 PM
Surr: Dibromofluoromethane	112	70-130		%Rec	1	5/5/2022 4:31:28 PM
Surr: Toluene-d8	106	70-130		%Rec	1	5/5/2022 4:31:28 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/5/2022 4:31:28 PM
Surr: BFB	100	70-130		%Rec	1	5/5/2022 4:31:28 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2204D50**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-17 6'
Project: Gaucho 6 Heater Treater
Collection Date: 4/28/2022 11:05:00 AM
Lab ID: 2204D50-013 **Matrix:** SOIL
Received Date: 4/30/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/6/2022 4:52:43 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/6/2022 4:52:43 PM
Surr: DNOP	103	51.1-141		%Rec	1	5/6/2022 4:52:43 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	5/6/2022 7:23:24 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	5/5/2022 4:58:31 PM
Toluene	ND	0.049		mg/Kg	1	5/5/2022 4:58:31 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/5/2022 4:58:31 PM
Xylenes, Total	ND	0.098		mg/Kg	1	5/5/2022 4:58:31 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	5/5/2022 4:58:31 PM
Surr: 4-Bromofluorobenzene	92.3	70-130		%Rec	1	5/5/2022 4:58:31 PM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	5/5/2022 4:58:31 PM
Surr: Toluene-d8	102	70-130		%Rec	1	5/5/2022 4:58:31 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/5/2022 4:58:31 PM
Surr: BFB	97.2	70-130		%Rec	1	5/5/2022 4:58:31 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2204D50**
Date Reported: **5/13/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH22-16 6'
Project: Gaucho 6 Heater Treater
Collection Date: 4/28/2022 1:30:00 PM
Lab ID: 2204D50-014 **Matrix:** SOIL
Received Date: 4/30/2022 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/6/2022 5:16:33 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/6/2022 5:16:33 PM
Surr: DNOP	102	51.1-141		%Rec	1	5/6/2022 5:16:33 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	5/6/2022 7:35:44 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	5/5/2022 5:25:30 PM
Toluene	ND	0.049		mg/Kg	1	5/5/2022 5:25:30 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/5/2022 5:25:30 PM
Xylenes, Total	ND	0.097		mg/Kg	1	5/5/2022 5:25:30 PM
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	5/5/2022 5:25:30 PM
Surr: 4-Bromofluorobenzene	93.8	70-130		%Rec	1	5/5/2022 5:25:30 PM
Surr: Dibromofluoromethane	107	70-130		%Rec	1	5/5/2022 5:25:30 PM
Surr: Toluene-d8	109	70-130		%Rec	1	5/5/2022 5:25:30 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/5/2022 5:25:30 PM
Surr: BFB	99.3	70-130		%Rec	1	5/5/2022 5:25:30 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204D50**

13-May-22

Client: Devon Energy

Project: Gaucho 6 Heater Treater

Sample ID: **MB-67316**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **67316**	RunNo: **87798**
Prep Date: **5/6/2022**	Analysis Date: **5/6/2022**	SeqNo: **3111668** Units: **mg/Kg**

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

Sample ID: **LCS-67316**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **67316**	RunNo: **87798**
Prep Date: **5/6/2022**	Analysis Date: **5/6/2022**	SeqNo: **3111669** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.8	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204D50**

13-May-22

Client: Devon Energy

Project: Gaucho 6 Heater Treater

Sample ID: **LCS-67260**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **67260**	RunNo: **87762**
Prep Date: **5/4/2022**	Analysis Date: **5/5/2022**	SeqNo: **3109550** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.1	68.9	135			
Surr: DNOP	3.7		5.000		73.5	51.1	141			

Sample ID: **MB-67260**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **67260**	RunNo: **87762**
Prep Date: **5/4/2022**	Analysis Date: **5/5/2022**	SeqNo: **3109554** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.4		10.00		84.4	51.1	141			

Sample ID: **MB-67249**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **67249**	RunNo: **87770**
Prep Date: **5/4/2022**	Analysis Date: **5/5/2022**	SeqNo: **3110446** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.7		10.00		97.1	51.1	141			

Sample ID: **LCS-67249**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **67249**	RunNo: **87770**
Prep Date: **5/4/2022**	Analysis Date: **5/5/2022**	SeqNo: **3110447** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.9	68.9	135			
Surr: DNOP	5.0		5.000		99.0	51.1	141			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204D50**

13-May-22

Client: Devon Energy

Project: Gaucho 6 Heater Treater

Sample ID: **lcs-67229**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **67229**	RunNo: **87721**
Prep Date: **5/3/2022**	Analysis Date: **5/5/2022**	SeqNo: **3107557** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	72.3	137			
Surr: BFB	2200		1000		224	37.7	212			S

Sample ID: **mb-67229**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **67229**	RunNo: **87721**
Prep Date: **5/3/2022**	Analysis Date: **5/5/2022**	SeqNo: **3107558** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	37.7	212			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204D50**

13-May-22

Client: Devon Energy

Project: Gaucho 6 Heater Treater

Sample ID: **lcs-67229**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **67229**	RunNo: **87721**
Prep Date: **5/3/2022**	Analysis Date: **5/5/2022**	SeqNo: **3107604** 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	89.7	80	120			
Toluene	0.91	0.050	1.000	0	90.7	80	120			
Ethylbenzene	0.91	0.050	1.000	0	90.8	80	120			
Xylenes, Total	2.7	0.10	3.000	0	90.5	80	120			
Surr: 4-Bromofluorobenzene	0.83		1.000		82.8	70	130			

Sample ID: **mb-67229**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **67229**	RunNo: **87721**
Prep Date: **5/3/2022**	Analysis Date: **5/5/2022**	SeqNo: **3107605** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.84		1.000		83.7	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204D50**

13-May-22

Client: Devon Energy

Project: Gaucho 6 Heater Treater

Sample ID: **2204d50-009ams**	SampType: **MS4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BH22-15 6'**	Batch ID: **67232**	RunNo: **87782**
Prep Date: **5/3/2022**	Analysis Date: **5/5/2022**	SeqNo: **3109237** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.024	0.9681	0	99.2	63.5	137			
Toluene	0.93	0.048	0.9681	0.01398	95.0	77.6	127			
Ethylbenzene	0.97	0.048	0.9681	0	100	77.9	129			
Xylenes, Total	2.9	0.097	2.904	0.04579	100	76.8	127			
Surr: 1,2-Dichloroethane-d4	0.51		0.4840		105	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.4840		94.0	70	130			
Surr: Dibromofluoromethane	0.50		0.4840		104	70	130			
Surr: Toluene-d8	0.51		0.4840		105	70	130			

Sample ID: **2204d50-009amsd**	SampType: **MSD4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BH22-15 6'**	Batch ID: **67232**	RunNo: **87782**
Prep Date: **5/3/2022**	Analysis Date: **5/5/2022**	SeqNo: **3109238** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	0.9852	0	95.6	63.5	137	1.97	20	
Toluene	0.97	0.049	0.9852	0.01398	97.4	77.6	127	4.15	20	
Ethylbenzene	0.95	0.049	0.9852	0	96.8	77.9	129	1.66	20	
Xylenes, Total	3.0	0.099	2.956	0.04579	101	76.8	127	2.56	20	
Surr: 1,2-Dichloroethane-d4	0.53		0.4926		107	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.44		0.4926		89.6	70	130	0	0	
Surr: Dibromofluoromethane	0.52		0.4926		105	70	130	0	0	
Surr: Toluene-d8	0.51		0.4926		104	70	130	0	0	

Sample ID: **lcs-67232**	SampType: **LCS4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **67232**	RunNo: **87782**
Prep Date: **5/3/2022**	Analysis Date: **5/5/2022**	SeqNo: **3109258** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	112	80	120			
Toluene	0.99	0.050	1.000	0	98.8	80	120			
Ethylbenzene	1.0	0.050	1.000	0	103	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.0	80	120			
Surr: 1,2-Dichloroethane-d4	0.60		0.5000		120	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.6	70	130			
Surr: Dibromofluoromethane	0.57		0.5000		113	70	130			
Surr: Toluene-d8	0.51		0.5000		103	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204D50**

13-May-22

Client: Devon Energy

Project: Gaucho 6 Heater Treater

Sample ID: **mb-67232**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **67232**	RunNo: **87782**
Prep Date: **5/3/2022**	Analysis Date: **5/5/2022**	SeqNo: **3109259** 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	0.55		0.5000		110	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.3	70	130			
Surr: Dibromofluoromethane	0.55		0.5000		110	70	130			
Surr: Toluene-d8	0.52		0.5000		104	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204D50**

13-May-22

Client: Devon Energy

Project: Gaucho 6 Heater Treater

Sample ID: **lcs-67232**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **67232**	RunNo: **87782**
Prep Date: **5/3/2022**	Analysis Date: **5/5/2022**	SeqNo: **3109233** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	70	130			
Surr: BFB	540		500.0		108	70	130			

Sample ID: **mb-67232**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **67232**	RunNo: **87782**
Prep Date: **5/3/2022**	Analysis Date: **5/5/2022**	SeqNo: **3109234** 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			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Devon Energy | Work Order Number: 2204D50 | RcptNo: 1

Received By: Juan Rojas 4/30/2022 8:30:00 AM

Completed By: Juan Rojas 4/30/2022 10:04:11 AM

Reviewed By: KPG 5.2.22

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: JM 4/30/22

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks: Sample 009 Has clear/water in the soil. KPG 5.2.22

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.1	Good				

Chain-of-Custody Record

Client: Devon

Mailing Address: on File

Phone #:

email or Fax#:

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

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

Turn-Around Time: 5-Day
☑ Standard ☐ Rush

Project Name: Gaucho #6 (Heater Treater)

Project #: 22E-01101

Project Manager: Monica Peppin

Sampler: CD

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.2-0.1=0.1 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2204250	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/28	10:00	soil	BHz2-08 2'	4 oz	Ice	-001	✓	✓					✓			
	10:05		BHz2-09 2'			-002										
	10:10		BHz2-10 2'			-003										
	10:15		BHz2-12 0'			-004										
	10:20		BHz2-13 0'			-005										
	10:25		BHz2-14 0'			-006										
	10:30		BHz2-15 0'			-007										
	10:35		BHz2-15 3'			-008										
	10:40		BHz2-15 6'			-009										
	10:45		BHz2-16 0'			-010										
	10:55		BHz2-17 0'			-011										
	11:00		BHz2-17 3'			-012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
			Cummings		4/29/22	900
4/29/22	1900	Cummings		courier	4/30/22	8:30

Remarks: CC: Chance Dixon
Direct Bill Dale Woodall @ Devon

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

Chain-of-Custody Record

Client: Devon

Mailing Address: On File

Phone #:

email or Fax#:

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

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

Turn-Around Time: 5-Day
☐ Standard ☒ Rush

Project Name: Gaucho #6 (Heater Treater)

Project #: EZE-01101

Project Manager: Monica Peppin

Sampler: CD

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 6.2-0.1=0.1 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2204D50	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4/28	11:05	Soil	BHZZ-17 6'	4oz	Ice	-013	✓	✓					✓			
4/28	1:30	Soil	BHZZ-16 6'	4oz	Ice	-014	✓	✓					✓			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
			[signature]		4/30/22	900
4/30/22	900	[signature]	[signature]	Courier	4/30/22	8:30

Remarks: CC: Chance Dixon
Direct Bill Devon

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 11, 2022

Monica Peppin

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

RE: Gaucho 6 Heater Treater OrderNo.: 2206D57

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 12 sample(s) on 6/24/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2206D57**
Date Reported: **7/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-01
Project: Gaucho 6 Heater Treater
Collection Date: 6/21/2022 8:55:00 AM
Lab ID: 2206D57-001 **Matrix:** SOIL
Received Date: 6/24/2022 8:16:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	6/30/2022 6:18:48 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/30/2022 6:18:48 AM
Surr: DNOP	93.1	51.1-141		%Rec	1	6/30/2022 6:18:48 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/29/2022 1:21:47 AM
Surr: BFB	97.0	37.7-212		%Rec	1	6/29/2022 1:21:47 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	6/29/2022 1:21:47 AM
Toluene	ND	0.049		mg/Kg	1	6/29/2022 1:21:47 AM
Ethylbenzene	ND	0.049		mg/Kg	1	6/29/2022 1:21:47 AM
Xylenes, Total	ND	0.099		mg/Kg	1	6/29/2022 1:21:47 AM
Surr: 4-Bromofluorobenzene	91.9	70-130		%Rec	1	6/29/2022 1:21:47 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	6/29/2022 9:47:31 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	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2206D57**
Date Reported: **7/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-02
Project: Gaucho 6 Heater Treater
Collection Date: 6/21/2022 9:00:00 AM
Lab ID: 2206D57-002 **Matrix:** SOIL
Received Date: 6/24/2022 8:16:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	6/30/2022 6:42:41 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/30/2022 6:42:41 AM
Surr: DNOP	102	51.1-141		%Rec	1	6/30/2022 6:42:41 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/29/2022 1:45:14 AM
Surr: BFB	93.3	37.7-212		%Rec	1	6/29/2022 1:45:14 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	6/29/2022 1:45:14 AM
Toluene	ND	0.048		mg/Kg	1	6/29/2022 1:45:14 AM
Ethylbenzene	ND	0.048		mg/Kg	1	6/29/2022 1:45:14 AM
Xylenes, Total	ND	0.096		mg/Kg	1	6/29/2022 1:45:14 AM
Surr: 4-Bromofluorobenzene	89.7	70-130		%Rec	1	6/29/2022 1:45:14 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	6/29/2022 9:59:55 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2206D57**
Date Reported: **7/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-03
Project: Gaucho 6 Heater Treater
Collection Date: 6/21/2022 9:05:00 AM
Lab ID: 2206D57-003 **Matrix:** SOIL
Received Date: 6/24/2022 8:16:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	6/30/2022 7:06:31 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/30/2022 7:06:31 AM
Surr: DNOP	96.6	51.1-141		%Rec	1	6/30/2022 7:06:31 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/29/2022 2:08:36 AM
Surr: BFB	99.1	37.7-212		%Rec	1	6/29/2022 2:08:36 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	6/29/2022 2:08:36 AM
Toluene	ND	0.047		mg/Kg	1	6/29/2022 2:08:36 AM
Ethylbenzene	ND	0.047		mg/Kg	1	6/29/2022 2:08:36 AM
Xylenes, Total	ND	0.093		mg/Kg	1	6/29/2022 2:08:36 AM
Surr: 4-Bromofluorobenzene	93.5	70-130		%Rec	1	6/29/2022 2:08:36 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	75	59		mg/Kg	20	6/29/2022 10:12:20 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2206D57**
Date Reported: **7/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-04
Project: Gaucho 6 Heater Treater
Collection Date: 6/21/2022 9:10:00 AM
Lab ID: 2206D57-004 **Matrix:** SOIL
Received Date: 6/24/2022 8:16:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	24	15		mg/Kg	1	6/30/2022 7:30:23 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/30/2022 7:30:23 AM
Surr: DNOP	111	51.1-141		%Rec	1	6/30/2022 7:30:23 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/29/2022 2:31:57 AM
Surr: BFB	97.6	37.7-212		%Rec	1	6/29/2022 2:31:57 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	6/29/2022 2:31:57 AM
Toluene	ND	0.049		mg/Kg	1	6/29/2022 2:31:57 AM
Ethylbenzene	ND	0.049		mg/Kg	1	6/29/2022 2:31:57 AM
Xylenes, Total	ND	0.097		mg/Kg	1	6/29/2022 2:31:57 AM
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	6/29/2022 2:31:57 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	6/29/2022 10:24:45 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	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2206D57**
Date Reported: **7/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BES22-01
Project: Gaucho 6 Heater Treater
Collection Date: 6/21/2022 9:15:00 AM
Lab ID: 2206D57-005 **Matrix:** SOIL
Received Date: 6/24/2022 8:16:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	6/30/2022 7:54:22 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/30/2022 7:54:22 AM
Surr: DNOP	93.2	51.1-141		%Rec	1	6/30/2022 7:54:22 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/29/2022 2:55:21 AM
Surr: BFB	97.9	37.7-212		%Rec	1	6/29/2022 2:55:21 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	6/29/2022 2:55:21 AM
Toluene	ND	0.050		mg/Kg	1	6/29/2022 2:55:21 AM
Ethylbenzene	ND	0.050		mg/Kg	1	6/29/2022 2:55:21 AM
Xylenes, Total	ND	0.099		mg/Kg	1	6/29/2022 2:55:21 AM
Surr: 4-Bromofluorobenzene	94.8	70-130		%Rec	1	6/29/2022 2:55:21 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	170	60		mg/Kg	20	6/29/2022 10:37:10 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	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2206D57**
Date Reported: **7/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BES22-02
Project: Gaucho 6 Heater Treater
Collection Date: 6/21/2022 9:20:00 AM
Lab ID: 2206D57-006 **Matrix:** SOIL
Received Date: 6/24/2022 8:16:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	6/30/2022 8:18:17 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/30/2022 8:18:17 AM
Surr: DNOP	94.6	51.1-141		%Rec	1	6/30/2022 8:18:17 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/29/2022 3:18:46 AM
Surr: BFB	95.4	37.7-212		%Rec	1	6/29/2022 3:18:46 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	6/29/2022 3:18:46 AM
Toluene	ND	0.049		mg/Kg	1	6/29/2022 3:18:46 AM
Ethylbenzene	ND	0.049		mg/Kg	1	6/29/2022 3:18:46 AM
Xylenes, Total	ND	0.098		mg/Kg	1	6/29/2022 3:18:46 AM
Surr: 4-Bromofluorobenzene	90.5	70-130		%Rec	1	6/29/2022 3:18:46 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	220	60		mg/Kg	20	6/29/2022 10:49:34 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2206D57**
Date Reported: **7/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-05
Project: Gaucho 6 Heater Treater
Collection Date: 6/21/2022 9:30:00 AM
Lab ID: 2206D57-007 **Matrix:** SOIL
Received Date: 6/24/2022 8:16:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	6/30/2022 8:42:14 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/30/2022 8:42:14 AM
Surr: DNOP	91.8	51.1-141		%Rec	1	6/30/2022 8:42:14 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/29/2022 3:42:13 AM
Surr: BFB	97.8	37.7-212		%Rec	1	6/29/2022 3:42:13 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	6/29/2022 3:42:13 AM
Toluene	ND	0.049		mg/Kg	1	6/29/2022 3:42:13 AM
Ethylbenzene	ND	0.049		mg/Kg	1	6/29/2022 3:42:13 AM
Xylenes, Total	ND	0.098		mg/Kg	1	6/29/2022 3:42:13 AM
Surr: 4-Bromofluorobenzene	92.7	70-130		%Rec	1	6/29/2022 3:42:13 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	330	61		mg/Kg	20	6/30/2022 9:27:08 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2206D57**
Date Reported: **7/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BES22-03
Project: Gaucho 6 Heater Treater
Collection Date: 6/21/2022 9:35:00 AM
Lab ID: 2206D57-008 **Matrix:** SOIL
Received Date: 6/24/2022 8:16:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	6/30/2022 9:06:08 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/30/2022 9:06:08 AM
Surr: DNOP	96.3	51.1-141		%Rec	1	6/30/2022 9:06:08 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/29/2022 4:29:03 AM
Surr: BFB	100	37.7-212		%Rec	1	6/29/2022 4:29:03 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	6/29/2022 4:29:03 AM
Toluene	ND	0.049		mg/Kg	1	6/29/2022 4:29:03 AM
Ethylbenzene	ND	0.049		mg/Kg	1	6/29/2022 4:29:03 AM
Xylenes, Total	ND	0.098		mg/Kg	1	6/29/2022 4:29:03 AM
Surr: 4-Bromofluorobenzene	94.5	70-130		%Rec	1	6/29/2022 4:29:03 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	230	60		mg/Kg	20	6/30/2022 9:39:33 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2206D57**
Date Reported: **7/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-06
Project: Gaucho 6 Heater Treater
Collection Date: 6/21/2022 9:40:00 AM
Lab ID: 2206D57-009 **Matrix:** SOIL
Received Date: 6/24/2022 8:16:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	6/30/2022 9:30:03 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/30/2022 9:30:03 AM
Surr: DNOP	91.1	51.1-141		%Rec	1	6/30/2022 9:30:03 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	6/29/2022 4:52:32 AM
Surr: BFB	96.8	37.7-212		%Rec	1	6/29/2022 4:52:32 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	6/29/2022 4:52:32 AM
Toluene	ND	0.046		mg/Kg	1	6/29/2022 4:52:32 AM
Ethylbenzene	ND	0.046		mg/Kg	1	6/29/2022 4:52:32 AM
Xylenes, Total	ND	0.093		mg/Kg	1	6/29/2022 4:52:32 AM
Surr: 4-Bromofluorobenzene	91.1	70-130		%Rec	1	6/29/2022 4:52:32 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	220	60		mg/Kg	20	6/30/2022 10:16:48 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2206D57**
Date Reported: **7/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-07
Project: Gaucho 6 Heater Treater
Collection Date: 6/21/2022 9:45:00 AM
Lab ID: 2206D57-010 **Matrix:** SOIL
Received Date: 6/24/2022 8:16:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	6/30/2022 9:53:57 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/30/2022 9:53:57 AM
Surr: DNOP	97.0	51.1-141		%Rec	1	6/30/2022 9:53:57 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/29/2022 4:41:00 AM
Surr: BFB	89.7	37.7-212		%Rec	1	6/29/2022 4:41:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.024		mg/Kg	1	6/29/2022 4:41:00 AM
Toluene	ND	0.047		mg/Kg	1	6/29/2022 4:41:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	6/29/2022 4:41:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	6/29/2022 4:41:00 AM
Surr: 4-Bromofluorobenzene	85.7	70-130		%Rec	1	6/29/2022 4:41:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	100	60		mg/Kg	20	6/30/2022 10:29:12 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2206D57**
Date Reported: **7/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BES22-04
Project: Gaucho 6 Heater Treater
Collection Date: 6/22/2022 11:00:00 AM
Lab ID: 2206D57-011 **Matrix:** SOIL
Received Date: 6/24/2022 8:16:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	6/30/2022 10:17:50 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/30/2022 10:17:50 AM
Surr: DNOP	97.9	51.1-141		%Rec	1	6/30/2022 10:17:50 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	6/29/2022 5:00:00 AM
Surr: BFB	87.4	37.7-212		%Rec	1	6/29/2022 5:00:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.023		mg/Kg	1	6/29/2022 5:00:00 AM
Toluene	ND	0.046		mg/Kg	1	6/29/2022 5:00:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	6/29/2022 5:00:00 AM
Xylenes, Total	ND	0.092		mg/Kg	1	6/29/2022 5:00:00 AM
Surr: 4-Bromofluorobenzene	82.6	70-130		%Rec	1	6/29/2022 5:00:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	6/30/2022 11:06:27 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2206D57**
Date Reported: **7/11/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-08
Project: Gaucho 6 Heater Treater
Collection Date: 6/22/2022 11:05:00 AM
Lab ID: 2206D57-012 **Matrix:** SOIL
Received Date: 6/24/2022 8:16:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **ED**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	6/30/2022 11:29:33 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/30/2022 11:29:33 AM
Surr: DNOP	105	51.1-141		%Rec	1	6/30/2022 11:29:33 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **BRM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/29/2022 5:20:00 AM
Surr: BFB	87.0	37.7-212		%Rec	1	6/29/2022 5:20:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **BRM**
Benzene	ND	0.025		mg/Kg	1	6/29/2022 5:20:00 AM
Toluene	ND	0.050		mg/Kg	1	6/29/2022 5:20:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	6/29/2022 5:20:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	6/29/2022 5:20:00 AM
Surr: 4-Bromofluorobenzene	83.1	70-130		%Rec	1	6/29/2022 5:20:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	6/30/2022 11:18:51 AM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2206D57**

11-Jul-22

Client: Devon Energy

Project: Gaucho 6 Heater Treater

Sample ID: **MB-68444** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **68444** RunNo: **89143**

Prep Date: **6/29/2022** Analysis Date: **6/29/2022** SeqNo: **3167724** Units: **mg/Kg**

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

Sample ID: **LCS-68444** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **68444** RunNo: **89143**

Prep Date: **6/29/2022** Analysis Date: **6/29/2022** SeqNo: **3167725** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.6	90	110			

Sample ID: **MB-68460** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **68460** RunNo: **89182**

Prep Date: **6/29/2022** Analysis Date: **6/30/2022** SeqNo: **3170091** Units: **mg/Kg**

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

Sample ID: **LCS-68460** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **68460** RunNo: **89182**

Prep Date: **6/29/2022** Analysis Date: **6/30/2022** SeqNo: **3170092** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.8	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2206D57**
11-Jul-22

Client: Devon Energy
Project: Gaucho 6 Heater Treater

Sample ID: **MB-68415**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **68415**	RunNo: **89114**
Prep Date: **6/28/2022**	Analysis Date: **6/30/2022**	SeqNo: **3170264** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.5		10.00		94.5	51.1	141			

Sample ID: **LCS-68415**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **68415**	RunNo: **89114**
Prep Date: **6/28/2022**	Analysis Date: **6/30/2022**	SeqNo: **3170265** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	15	50.00	0	98.8	64.4	127			
Surr: DNOP	5.1		5.000		103	51.1	141			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2206D57**

11-Jul-22

Client: Devon Energy

Project: Gaucho 6 Heater Treater

Sample ID: **mb-68382**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **68382**	RunNo: **89090**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3165011** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	37.7	212			

Sample ID: **lcs-68382**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **68382**	RunNo: **89090**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3165012** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	114	72.3	137			
Surr: BFB	2200		1000		218	37.7	212			S

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2206D57**

11-Jul-22

Client: Devon Energy

Project: Gaucho 6 Heater Treater

Sample ID: **mb-68382**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **68382**	RunNo: **89090**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3165039** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		94.7	70	130			

Sample ID: **LCS-68382**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **68382**	RunNo: **89090**
Prep Date: **6/27/2022**	Analysis Date: **6/28/2022**	SeqNo: **3165040** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	84.9	80	120			
Toluene	0.90	0.050	1.000	0	89.6	80	120			
Ethylbenzene	0.91	0.050	1.000	0	90.8	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.1	80	120			
Surr: 4-Bromofluorobenzene	0.98		1.000		98.0	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Devon Energy | Work Order Number: 2206D57 | RcptNo: 1

Received By: Kasandra Payan 6/24/2022 8:16:00 AM

Completed By: Sean Livingston 6/24/2022 9:24:03 AM

Reviewed By: DAD 6/24/22

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: CMC 6/24/22 24

CMC 6/24/22

Special Handling (if applicable)

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

Person Notified: Erin Date: 6/24/22

By Whom: Cheyenne Cesar Via: ☐ eMail ☒ Phone ☐ Fax ☐ In Person

Regarding: Oil Sample name incorrect

Client Instructions: go with COC.

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good				
2	0.8	Good				

Chain-of-Custody Record

Client: Devon

Mailing Address: On File

Phone #:

email or Fax#:

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

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

Turn-Around Time: 5-Day
☐ Standard ☒ Rush

Project Name: Gaucho 6 Heater Treater

Project #: 22E-01101-002

Project Manager: Monica Peppin

Sampler: CD
On Ice: ☒ Yes ☐ No
\# of Coolers: 2
Cooler Temp (including CF): ~~11.0~~ ~~12.0-0.2=~~ 10-0.2=0.8 (°C); 2.2-0.2=2.0°C ~~11.8~~ (initialed 6/24)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2206057	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
6/21	8:55	Soil	WES22-01	4oz	Ice	001	✓	✓					✓			
|	9:00	|	WES22-02	|	|	002	|	|					|			
|	9:05	|	WES22-03	|	|	003	|	|					|			
|	9:10	|	WES22-04	|	|	004	|	|					|			
|	9:15	|	BES22-01	|	|	005	|	|					|			
|	9:20	|	BES22-02	|	|	006	|	|					|			
|	9:30	|	WES22-05	|	|	007	|	|					|			
|	9:35	|	BES22-03	|	|	008	|	|					|			
|	9:40	|	WES22-06	|	|	009	|	|					|			
|	9:45	|	WES22-07	|	|	010	|	|					|			
6/22	11:00	Soil	BES22-04	|	|	011	|	|					|			
6/22	11:05	|	WES22-08	|	|	012	|	|					|			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
			ac		6/23/22	1200
6/23/22	1900	ac	KJR	courier	6-24-22	8:16

Remarks: CC: Chance Dixon
Direct Bill Devon Energy
W/O #: N/A

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 14, 2022

Monica Peppin

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

RE: Gaucho Unit 6 Heater Treater OrderNo.: 2207345

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 12 sample(s) on 7/9/2022 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2207345**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BES22-05 5'
Project: Gaucho Unit 6 Heater Treater
Collection Date: 7/7/2022 12:05:00 PM
Lab ID: 2207345-001 **Matrix:** SOIL
Received Date: 7/9/2022 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	7/12/2022 11:21:23 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	7/12/2022 11:21:23 PM
Surr: DNOP	102	51.1-141		%Rec	1	7/12/2022 11:21:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/12/2022 11:45:28 AM
Surr: BFB	98.5	37.7-212		%Rec	1	7/12/2022 11:45:28 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	7/12/2022 11:45:28 AM
Toluene	ND	0.049		mg/Kg	1	7/12/2022 11:45:28 AM
Ethylbenzene	ND	0.049		mg/Kg	1	7/12/2022 11:45:28 AM
Xylenes, Total	ND	0.099		mg/Kg	1	7/12/2022 11:45:28 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	7/12/2022 11:45:28 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	7/12/2022 4:23:12 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2207345**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BES22-06 5'
Project: Gaucho Unit 6 Heater Treater
Collection Date: 7/7/2022 12:05:00 PM
Lab ID: 2207345-002 **Matrix:** SOIL
Received Date: 7/9/2022 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	7/12/2022 11:45:51 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/12/2022 11:45:51 PM
Surr: DNOP	102	51.1-141		%Rec	1	7/12/2022 11:45:51 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/12/2022 12:56:33 PM
Surr: BFB	98.1	37.7-212		%Rec	1	7/12/2022 12:56:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	7/12/2022 12:56:33 PM
Toluene	ND	0.049		mg/Kg	1	7/12/2022 12:56:33 PM
Ethylbenzene	ND	0.049		mg/Kg	1	7/12/2022 12:56:33 PM
Xylenes, Total	ND	0.098		mg/Kg	1	7/12/2022 12:56:33 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	7/12/2022 12:56:33 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	7/12/2022 4:35:37 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2207345**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6 Heater Treater
Lab ID: 2207345-003 **Matrix:** SOIL

Client Sample ID: BES22-07 6'
Collection Date: 7/7/2022 12:10:00 PM
Received Date: 7/9/2022 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	7/13/2022 12:10:19 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/13/2022 12:10:19 AM
Surr: DNOP	108	51.1-141		%Rec	1	7/13/2022 12:10:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/12/2022 2:07:57 PM
Surr: BFB	101	37.7-212		%Rec	1	7/12/2022 2:07:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	7/12/2022 2:07:57 PM
Toluene	ND	0.050		mg/Kg	1	7/12/2022 2:07:57 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/12/2022 2:07:57 PM
Xylenes, Total	ND	0.099		mg/Kg	1	7/12/2022 2:07:57 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	7/12/2022 2:07:57 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	64	60		mg/Kg	20	7/12/2022 5:12:50 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	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2207345**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BES22-08 0.5'
Project: Gaucho Unit 6 Heater Treater
Collection Date: 7/7/2022 12:20:00 PM
Lab ID: 2207345-004 **Matrix:** SOIL
Received Date: 7/9/2022 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	13		mg/Kg	1	7/13/2022 12:34:48 AM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	7/13/2022 12:34:48 AM
Surr: DNOP	76.3	51.1-141		%Rec	1	7/13/2022 12:34:48 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/12/2022 2:31:48 PM
Surr: BFB	102	37.7-212		%Rec	1	7/12/2022 2:31:48 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	7/12/2022 2:31:48 PM
Toluene	ND	0.050		mg/Kg	1	7/12/2022 2:31:48 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/12/2022 2:31:48 PM
Xylenes, Total	ND	0.099		mg/Kg	1	7/12/2022 2:31:48 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	7/12/2022 2:31:48 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	230	59		mg/Kg	20	7/12/2022 5:25:14 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	Estimated value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference

Analytical Report
Lab Order **2207345**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BES22-09 0.5'
Project: Gaucho Unit 6 Heater Treater
Collection Date: 7/7/2022 12:20:00 PM
Lab ID: 2207345-005 **Matrix:** SOIL
Received Date: 7/9/2022 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	7/13/2022 12:59:11 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/13/2022 12:59:11 AM
Surr: DNOP	73.8	51.1-141		%Rec	1	7/13/2022 12:59:11 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/12/2022 2:55:39 PM
Surr: BFB	104	37.7-212		%Rec	1	7/12/2022 2:55:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	7/12/2022 2:55:39 PM
Toluene	ND	0.050		mg/Kg	1	7/12/2022 2:55:39 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/12/2022 2:55:39 PM
Xylenes, Total	ND	0.099		mg/Kg	1	7/12/2022 2:55:39 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	7/12/2022 2:55:39 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	190	60		mg/Kg	20	7/12/2022 5:37:38 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2207345**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6 Heater Treater
Lab ID: 2207345-006 **Matrix:** SOIL

Client Sample ID: BES22-10 4'
Collection Date: 7/7/2022 12:35:00 PM
Received Date: 7/9/2022 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	7/13/2022 1:23:39 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/13/2022 1:23:39 AM
Surr: DNOP	76.3	51.1-141		%Rec	1	7/13/2022 1:23:39 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/12/2022 3:19:30 PM
Surr: BFB	101	37.7-212		%Rec	1	7/12/2022 3:19:30 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	7/12/2022 3:19:30 PM
Toluene	ND	0.050		mg/Kg	1	7/12/2022 3:19:30 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/12/2022 3:19:30 PM
Xylenes, Total	ND	0.099		mg/Kg	1	7/12/2022 3:19:30 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	7/12/2022 3:19:30 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	7/12/2022 5:50:03 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2207345**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-09 0.5-4'
Project: Gaucho Unit 6 Heater Treater
Collection Date: 7/7/2022 12:30:00 PM
Lab ID: 2207345-007 **Matrix:** SOIL
Received Date: 7/9/2022 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	7/13/2022 1:48:10 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/13/2022 1:48:10 AM
Surr: DNOP	77.3	51.1-141		%Rec	1	7/13/2022 1:48:10 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/12/2022 3:43:28 PM
Surr: BFB	101	37.7-212		%Rec	1	7/12/2022 3:43:28 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	7/12/2022 3:43:28 PM
Toluene	ND	0.050		mg/Kg	1	7/12/2022 3:43:28 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/12/2022 3:43:28 PM
Xylenes, Total	ND	0.099		mg/Kg	1	7/12/2022 3:43:28 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	7/12/2022 3:43:28 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	200	60		mg/Kg	20	7/12/2022 6:02:27 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	Estimated value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference

Analytical Report
Lab Order **2207345**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-10 0.5-6'
Project: Gaucho Unit 6 Heater Treater
Collection Date: 7/7/2022 12:10:00 PM
Lab ID: 2207345-008 **Matrix:** SOIL
Received Date: 7/9/2022 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	7/13/2022 2:12:43 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/13/2022 2:12:43 AM
Surr: DNOP	78.9	51.1-141		%Rec	1	7/13/2022 2:12:43 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/12/2022 4:07:26 PM
Surr: BFB	102	37.7-212		%Rec	1	7/12/2022 4:07:26 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	7/12/2022 4:07:26 PM
Toluene	ND	0.049		mg/Kg	1	7/12/2022 4:07:26 PM
Ethylbenzene	ND	0.049		mg/Kg	1	7/12/2022 4:07:26 PM
Xylenes, Total	ND	0.098		mg/Kg	1	7/12/2022 4:07:26 PM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	7/12/2022 4:07:26 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	190	60		mg/Kg	20	7/12/2022 6:14:52 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	Estimated value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference

Analytical Report
Lab Order **2207345**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-11 5-6'
Project: Gaucho Unit 6 Heater Treater
Collection Date: 7/7/2022 12:10:00 PM
Lab ID: 2207345-009 **Matrix:** SOIL
Received Date: 7/9/2022 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	12		mg/Kg	1	7/13/2022 2:37:18 AM
Motor Oil Range Organics (MRO)	ND	39		mg/Kg	1	7/13/2022 2:37:18 AM
Surr: DNOP	75.9	51.1-141		%Rec	1	7/13/2022 2:37:18 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/12/2022 4:31:22 PM
Surr: BFB	100	37.7-212		%Rec	1	7/12/2022 4:31:22 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	7/12/2022 4:31:22 PM
Toluene	ND	0.049		mg/Kg	1	7/12/2022 4:31:22 PM
Ethylbenzene	ND	0.049		mg/Kg	1	7/12/2022 4:31:22 PM
Xylenes, Total	ND	0.098		mg/Kg	1	7/12/2022 4:31:22 PM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	7/12/2022 4:31:22 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	190	60		mg/Kg	20	7/12/2022 6:52:06 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2207345**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-12 0-4'
Project: Gaucho Unit 6 Heater Treater
Collection Date: 7/7/2022 12:30:00 PM
Lab ID: 2207345-010 **Matrix:** SOIL
Received Date: 7/9/2022 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	7/13/2022 3:01:45 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	7/13/2022 3:01:45 AM
Surr: DNOP	76.5	51.1-141		%Rec	1	7/13/2022 3:01:45 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/12/2022 4:55:13 PM
Surr: BFB	100	37.7-212		%Rec	1	7/12/2022 4:55:13 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	7/12/2022 4:55:13 PM
Toluene	ND	0.048		mg/Kg	1	7/12/2022 4:55:13 PM
Ethylbenzene	ND	0.048		mg/Kg	1	7/12/2022 4:55:13 PM
Xylenes, Total	ND	0.097		mg/Kg	1	7/12/2022 4:55:13 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	7/12/2022 4:55:13 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	67	60		mg/Kg	20	7/12/2022 7:04:31 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	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2207345**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Gaucho Unit 6 Heater Treater
Lab ID: 2207345-011 **Matrix:** SOIL

Client Sample ID: WES22-13 0-0.5'
Collection Date: 7/7/2022 12:25:00 PM
Received Date: 7/9/2022 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	11		mg/Kg	1	7/13/2022 3:26:13 AM
Motor Oil Range Organics (MRO)	ND	35		mg/Kg	1	7/13/2022 3:26:13 AM
Surr: DNOP	73.1	51.1-141		%Rec	1	7/13/2022 3:26:13 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/12/2022 8:52:57 PM
Surr: BFB	95.5	37.7-212		%Rec	1	7/12/2022 8:52:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	7/12/2022 8:52:57 PM
Toluene	ND	0.050		mg/Kg	1	7/12/2022 8:52:57 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/12/2022 8:52:57 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/12/2022 8:52:57 PM
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	7/12/2022 8:52:57 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	230	60		mg/Kg	20	7/12/2022 8:06:33 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2207345**
Date Reported: **7/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: WES22-14 0-0.5'
Project: Gaucho Unit 6 Heater Treater
Collection Date: 7/7/2022 12:25:00 PM
Lab ID: 2207345-012 **Matrix:** SOIL
Received Date: 7/9/2022 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	7/13/2022 3:50:38 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/13/2022 3:50:38 AM
Surr: DNOP	70.4	51.1-141		%Rec	1	7/13/2022 3:50:38 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/12/2022 9:16:36 PM
Surr: BFB	95.8	37.7-212		%Rec	1	7/12/2022 9:16:36 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	7/12/2022 9:16:36 PM
Toluene	ND	0.050		mg/Kg	1	7/12/2022 9:16:36 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/12/2022 9:16:36 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/12/2022 9:16:36 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	7/12/2022 9:16:36 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	210	60		mg/Kg	20	7/12/2022 8:18:58 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2207345**

14-Jul-22

Client: Devon Energy

Project: Gaucho Unit 6 Heater Treater

Sample ID: **MB-68714**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **68714**	RunNo: **89439**
Prep Date: **7/12/2022**	Analysis Date: **7/12/2022**	SeqNo: **3181846** Units: **mg/Kg**

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

Sample ID: **LCS-68714**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **68714**	RunNo: **89439**
Prep Date: **7/12/2022**	Analysis Date: **7/12/2022**	SeqNo: **3181847** Units: **mg/Kg**

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

Sample ID: **MB-68724**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **68724**	RunNo: **89439**
Prep Date: **7/12/2022**	Analysis Date: **7/12/2022**	SeqNo: **3181876** Units: **mg/Kg**

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

Sample ID: **LCS-68724**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **68724**	RunNo: **89439**
Prep Date: **7/12/2022**	Analysis Date: **7/12/2022**	SeqNo: **3181877** 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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2207345**

14-Jul-22

Client: Devon Energy

Project: Gaucho Unit 6 Heater Treater

Sample ID: **MB-68675**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **68675**	RunNo: **89401**
Prep Date: **7/11/2022**	Analysis Date: **7/12/2022**	SeqNo: **3180414** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		96.2	51.1	141			

Sample ID: **LCS-68675**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **68675**	RunNo: **89401**
Prep Date: **7/11/2022**	Analysis Date: **7/12/2022**	SeqNo: **3180415** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	15	50.00	0	96.9	64.4	127			
Surr: DNOP	4.8		5.000		96.3	51.1	141			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2207345**

14-Jul-22

Client: Devon Energy

Project: Gaucho Unit 6 Heater Treater

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G89410**	RunNo: **89410**
Prep Date:	Analysis Date: **7/12/2022**	SeqNo: **3180613** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		101	37.7	212			

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G89410**	RunNo: **89410**
Prep Date:	Analysis Date: **7/12/2022**	SeqNo: **3180614** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1900		1000		194	37.7	212			

Sample ID: **mb-68666**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **68666**	RunNo: **89410**
Prep Date: **7/10/2022**	Analysis Date: **7/12/2022**	SeqNo: **3180627** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	960		1000		96.1	37.7	212			

Sample ID: **lcs-68666**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **68666**	RunNo: **89410**
Prep Date: **7/10/2022**	Analysis Date: **7/12/2022**	SeqNo: **3180628** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	102	72.3	137			
Surr: BFB	2000		1000		196	37.7	212			

Sample ID: **2207345-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BES22-05 5'**	Batch ID: **68666**	RunNo: **89410**
Prep Date: **7/10/2022**	Analysis Date: **7/12/2022**	SeqNo: **3180631** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.9	24.61	0	96.0	70	130			
Surr: BFB	1900		984.3		191	37.7	212			

Sample ID: **2207345-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BES22-05 5'**	Batch ID: **68666**	RunNo: **89410**
Prep Date: **7/10/2022**	Analysis Date: **7/12/2022**	SeqNo: **3180632** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	24.98	0	102	70	130	7.20	20	
Surr: BFB	2000		999.0		198	37.7	212	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2207345**

14-Jul-22

Client: Devon Energy

Project: Gaucho Unit 6 Heater Treater

Sample ID: **mb-68666**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **68666**	RunNo: **89410**
Prep Date: **7/10/2022**	Analysis Date: **7/12/2022**	SeqNo: **3180658** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	70	130			

Sample ID: **LCS-68666**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **68666**	RunNo: **89410**
Prep Date: **7/10/2022**	Analysis Date: **7/12/2022**	SeqNo: **3180659** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.6	80	120			
Toluene	0.99	0.050	1.000	0	99.1	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.8	80	120			
Xylenes, Total	3.0	0.10	3.000	0	100	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		105	70	130			

Sample ID: **2207345-002ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BES22-06 5'**	Batch ID: **68666**	RunNo: **89410**
Prep Date: **7/10/2022**	Analysis Date: **7/12/2022**	SeqNo: **3180662** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	96.3	68.8	120			
Toluene	1.0	0.050	1.000	0	101	73.6	124			
Ethylbenzene	1.0	0.050	1.000	0	103	72.7	129			
Xylenes, Total	3.1	0.10	3.000	0	103	75.7	126			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	70	130			

Sample ID: **2207345-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BES22-06 5'**	Batch ID: **68666**	RunNo: **89410**
Prep Date: **7/10/2022**	Analysis Date: **7/12/2022**	SeqNo: **3180663** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	0.9970	0	96.8	68.8	120	0.270	20	
Toluene	1.0	0.050	0.9970	0	102	73.6	124	1.31	20	
Ethylbenzene	1.0	0.050	0.9970	0	104	72.7	129	0.398	20	
Xylenes, Total	3.1	0.10	2.991	0	104	75.7	126	1.08	20	
Surr: 4-Bromofluorobenzene	1.1		0.9970		106	70	130	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Devon Energy | Work Order Number: 2207345 | RcptNo: 1

Received By: Sean Livingston 7/9/2022 9:30:00 AM SL

Completed By: Sean Livingston 7/9/2022 9:45:27 AM SL

Reviewed By: SCL 7/9/22

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: SCL 7/9/22

SCL 7/9/22

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good				
2	3.6	Good				
3	3.9	Good				

Chain-of-Custody Record

Client: Dwan Energy

M. Mathews/D. Woodall

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 48 hr

☐ Standard ☑ Rush

Project Name: Gaucho Unit #6 Heater Treater

Project #: [redacted] 22E-01101

Project Manager: Monica Peppin

Sampler:

On Ice: ☑ Yes ☐ No

# of Coolers: 3

Cooler Temp (including CF): CF (-0.1) (°C) 2.1, 3.6, 3.9°c

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2207345	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
7-7-2022	12:05	Soil	BES22-05 5'	4oz	ice	001	✓	✓					✓			
7-7-22	12:05		BES22-06 5'			002										
7-7-22	12:10		BES22-07 6'			003										
7-7-22	12:20		BES22-08 0.5'			004										
	12:20		BES22-09 0.5'			005										
	12:35		BES22-10 4'			006										
	12:30		WES22-09 0.5-4'			007										
	12:10		WES22-10 0.5-6'			008										
	12:10		WES22-11 5-6'			009										
	12:30		WES22-12 0-4'			010										
	12:25		WES22-13 0-0.5'			011										
	12:25		WES22-14 0-0.5'			012										

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
7-7-2022	06:30				7/8/22	1100
7/8/22	1900		SOE	courier	7/9/22	9:30

Remarks:

W/O #: 20994419

Direct bill Dwan

cc: M. Peppin Final Report

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

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

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

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 149734
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved.	10/26/2022