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	NAPP2205227171
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Hilcorp Energy Company	OGRID 372171
Contact Name Billy Ginn	Contact Telephone 346-237-2073
Contact email William.Ginn@hilcorp.com	Incident # nAPP2205227171
Contact mailing address 1111 Travis Street, Houston, Texas 77002	

Location of Release Source

Latitude 36.837296 Longitude -107.367525

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Cat Draw 100	Site Type Natural Gas Production Facility
Date Release Discovered 02/09/2022 @ 10:00am MT	API# 30-039-26167

Unit Letter	Section	Township	Range	County
M	04	30N	05W	Rio Arriba

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) 377	Volume Recovered (bbls) 90
	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:
On 02/09/2022 at approximately 10:00am MT, Hilcorp Energy Company (Hilcorp) discovered the cross-over line connecting two tanks froze and split causing the contents of both tanks to release (377 bbls of produced water) into the secondary containment at the Cat Draw 100 (API: 30-039-26167) in Rio Arriba County, NM. Immediately upon discovery, the storage tanks were isolated, and a vacuum truck was dispatched to the area recovering as much liquid as possible. Hilcorp made the appropriate notifications by e-mail within 24 hours of discovery of the release in accordance with NMAC 19.15.29.10 A. (1).

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2205227171
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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? The spill amount exceeded 25 bbls.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Clara Cardoza notified the BLM (FFO) and NMOCD via 24-hour email notification on 02/09/2022 at 07:36 pm CST.

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: __ Billy Ginn _____ Title: _____Environmental Specialist_____

Signature: __  _____ Date: 02/21/2022_____

email: ___ William.Ginn@hilcorp.com _____ Telephone: ____346-237-2073_____

OCD Only

Received by: Ramona Marcus _____ Date: 2/21/2022 _____

NAPP2205227171

Billy Ginn

From: Clara Cardoza
Sent: Wednesday, February 9, 2022 7:35 PM
To: Enviro, OCD, EMNRD; 'Nelson.Velez@state.nm.us'; Abiodun Adeloye; Joyner, Ryan N
Cc: Billy Ginn
Subject: Hilcorp Release Notification - Cat Draw 100

Please let this serve as immediate notification for a major released discovered at the Cat Draw 100 (API 3003926167) in Rio Arriba County . The release was discovered today 2/9/2022 at 10:00 a.m. by the site operator when he arrived at location and found the 4" cross over pipe between two tanks froze and split draining the content of the tanks into secondary containment. The total released was 377 bbls of produced water and 90 bbls were recovered. No one was injured and none of the produced water left location.

An initial C-141 will be submitted in accordance with NMAC 19.15.29.

Thank you,

Clara M Cardoza
Environmental Compliance L48W
505-564-0733 (O)
505-793-2784 (C)

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: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 82870
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rmarcus	When submitting future reports regarding this release, please submit the calculations used or specific justification for the volumes reported on the initial C-141	2/21/2022

Incident ID	nAPP2133326844
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?	142 (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?	03/23/2022 ☐ Yes ☐ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2133326844
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: ___ Billy Ginn _____ Title: ____Environmental Specialist_____

Signature:_____ _____ Date: __03/15/2022_____

email: ___ William.Ginn@hilcorp.com _____ Telephone: ___346-237-2073_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2133326844
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: Billy Ginn Title: Environmental Specialist

Signature: Billy Ginn Date: 03/15/2022

email: William.Ginn@hilcorp.com Telephone: 346-237-2073

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: Nelson Velez Date: 03/23/2022

Printed Name: Nelson Velez Title: Environmental Specialist - Adv

Executive Summary

On 02/09/2022 at approximately 10:00am MT, Hilcorp Energy Company (Hilcorp) discovered the cross-over line connecting two tanks froze and split causing the contents of both tanks to release (377 bbls of produced water) into the secondary containment at the Cat Draw 100 (API: 30-039-26167) in Rio Arriba County, NM. The release occurred in the Fruitland Coal Field (Lease No. NMNM4456) on Federal BLM land (30N, 5W, 4SW). 377 bbls of produced water was discharged, with 90 bbls recovered. Spilled fluids did not migrate horizontally outside the bermed area or off pad, but 287 bbls of produced water migrated vertically into the underlying soils. Immediately upon discovery, the storage tanks were isolated, and a vacuum truck was dispatched to the area recovering as much liquid as possible. There were no personal injuries. In an effort to prevent recurrence of the same incident, equalizing line between tanks will be replaced and the valve between them will not be open, keeping the line free of liquids, unless one of the tanks is near capacity and will be pulled as soon as possible to prevent a freeze. No other spills have occurred at this site in the past three years. Hilcorp made the appropriate notifications by e-mail to Mr. Abiodun Adeloye and Mr. Ryan Joyner with the BLM, along with Mr. Nelson Velez with the NMOCD within 24 hours of discovery of the release in accordance with NMAC 19.15.29.10 A. (1).

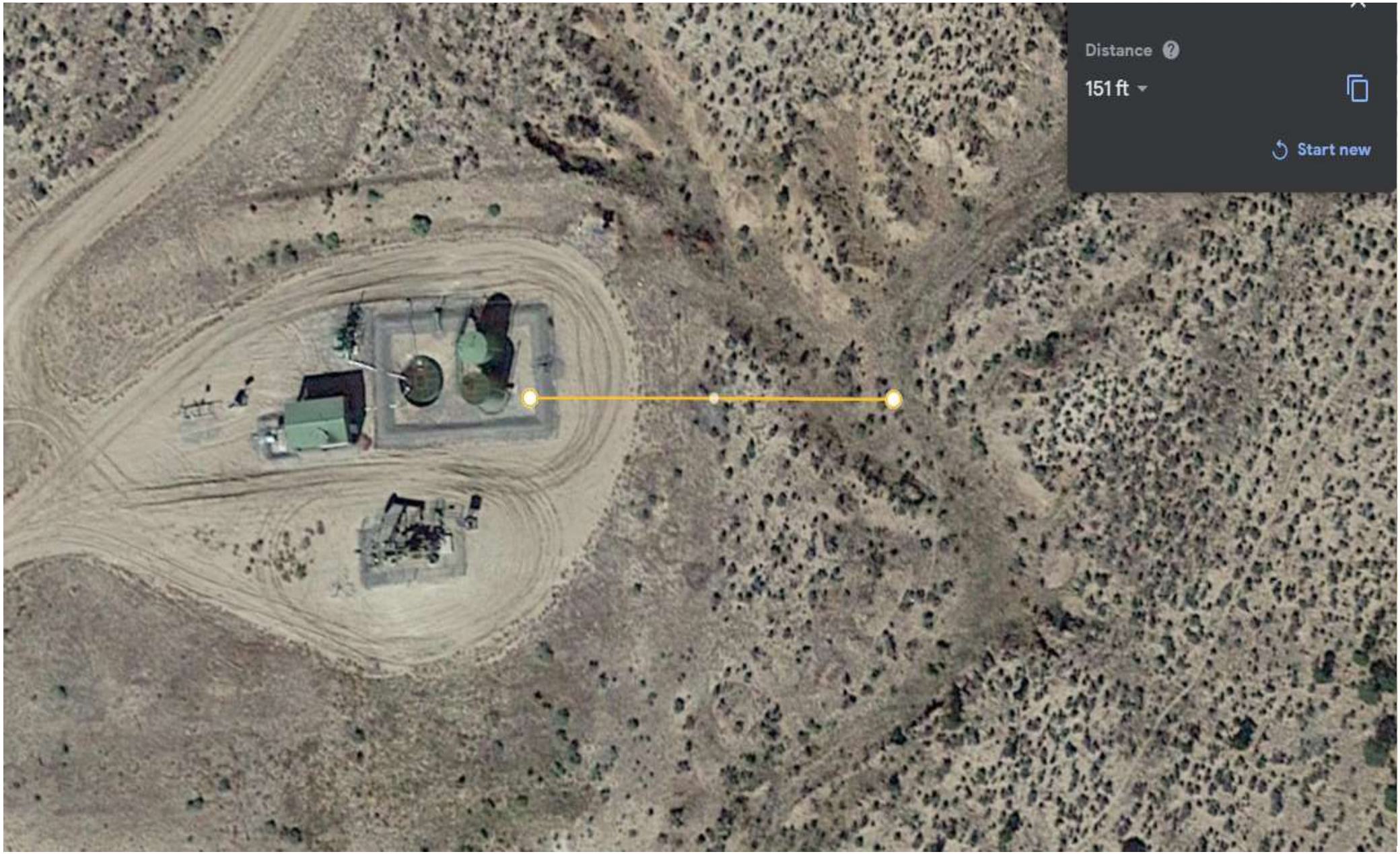
Following the initial investigation, Hilcorp chose to assess soil impacts by taking samples of the impacted area. Lab samples confirmed that the impacts were limited to staining at the surface of the secondary containment. On February 25, 2022 at 1:51pm, Billy Ginn with HEC emailed Mr. Abiodun Adeloye with the BLM and Mr. Nelson Velez with the NMOCD notifying them that HEC would be conducting confirmation soil sampling at the Cat Draw 100 on March 1, 2022 at 9:00am in accordance with NMAC 19.15.29.12.D. Mr. Abiodun Adeloye with the BLM and Mr. Kurt Hoekstra with HEC were present at the time of the confirmation soil sampling on March 1, 2022. Hilcorp's Kurt Hoekstra proceeded with the confirmation sampling event as scheduled. Due to its' proximity to a significant watercourse, this site is ranked $\leq$ 50 ft per NMAC 19.15.17.7.P. Sixteen (16) samples were collected from eight (8) separate locations every two-hundred (200) square feet surrounding the storage tanks. Two (2) samples were collected at each location at 0-6" and 1'10"-2'6", respectively. Results for all soil samples were shown to be below the applicable clean up action levels. Refer to sample field notes for additional excavation information.

Scaled Map

Note 1: The surface extent of the Cat Draw 100 release is represented by the red square shown in image above. Note that all spilled liquids remained within secondary containment.

Scaled Map – Close-up

Determination of water sources and significant watercourses within ½ mile of the lateral extent of the release



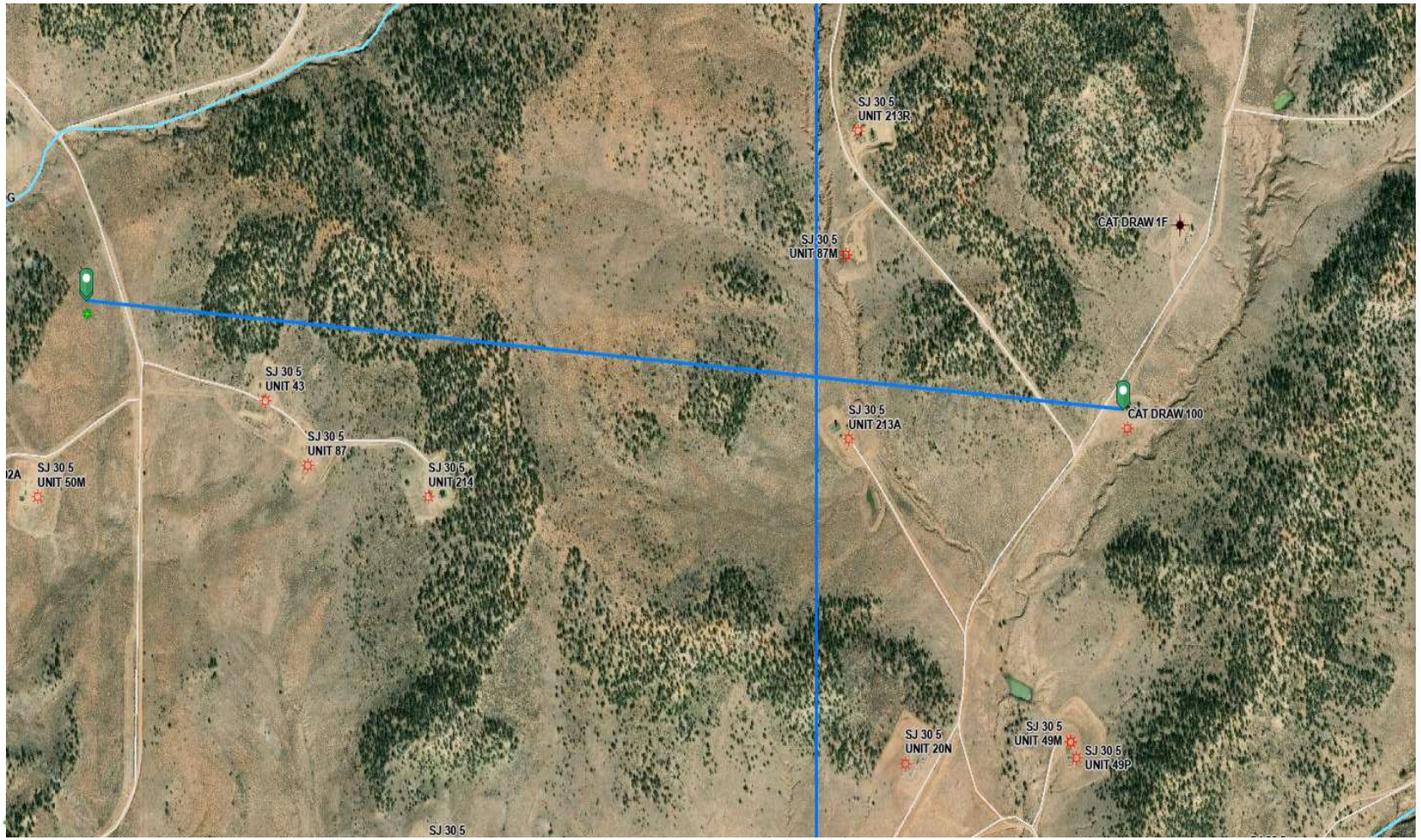
Note 1: Release point shown to be within 300 ft of a significant water course; therefore, the most stringent Table 1 Closure Criteria will be utilized.

Note 2: The lateral extents of the release point are not shown to be within 300 feet of a mapped wetland.

Determination of water sources and significant watercourses within ½ mile of the lateral extent of the release

Note: Release point is shown to be within 300 ft of a significant water course.

Distance to mapped water wells



6,676 Feet (US)

Clear

POD Waters

Note: The lateral extents of the release point are not shown to be within 500 ft of a spring or domestic freshwater well used by less than 5 households (or stock watering) or within 1,000 ft of any freshwater water well or spring.

Depth to groundwater

Note: Groundwater information taken from the registered Form C-144 for Below-Grade Tank at the Cat Draw 100. The estimated groundwater depth is shown to be 142 ft. However, due to the site's proximity to a significant watercourse, this site is ranked < 50 ft per NMAC 19.15.17.7.P.

Source: Page extracted from Registered Pit Closure Permit (Form C-144) for the Cat Draw 100. Found on OCD's website under Cat Draw 100 (30-039-26167) – Associated Images – Well File Search (3/15/2022).

CAT DRAW 100

Site Specific Hydrogeology

A visual site inspection confirming the information contained herein was performed on the well 'CAT DRAW 100', which is located at 36.83705 degrees North latitude and 107.36772 degrees West longitude. This location is located on the Espinosa Ranch 7.5' USGS topographic quadrangle. This location is in section 4 of Township 30 North Range 5 West of the Public Land Survey System (New Mexico Principal Meridian). This location is located in Rio Arriba County, New Mexico. The nearest town is Allison, located 14.6 miles to the northwest. The nearest large town (population greater than 10,000) is Durango, located 41.4 miles to the northwest (National Atlas). The nearest highway is US Highway 64, located 8.5 miles to the south. The location is on BLM land and is 994 feet from the edge of the parcel as notated in the BLM land status layer updated January 2008. This location is in the Upper San Juan. Colorado. New Mexico, Sub-basin. This location is located 1943 meters or 6373 feet above sea level and receives 14 inches of rain each year. The vegetation at this location is classified as Inter-Mountain Basins Big Sagebrush Shrubland as per the Southwest Regional Gap Analysis Program.

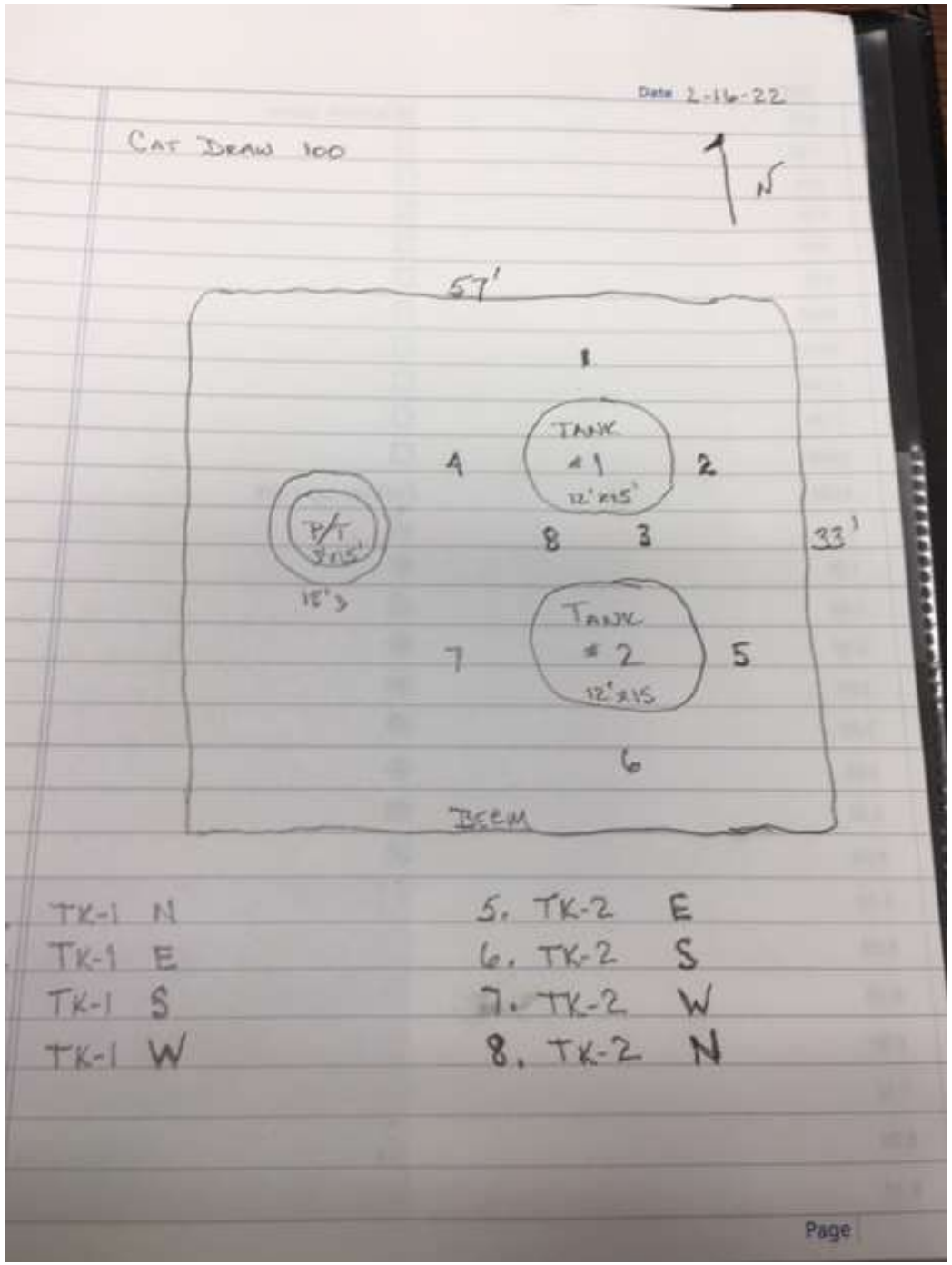
The estimated depth to ground water at this point is 142 feet. This estimation is based on the data published on the New Mexico Engineer's iWaters Database website and water depth data from ConocoPhillips' cathodic wells. Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. The nearest stream is 17 feet to the southeast and is classified by the USGS as an intermittent stream. The nearest perennial stream is 5,217 feet to the southwest. The nearest water body is 5,195 feet to the southwest. It is classified by the USGS as a perennial lake and is 2.5 acres in size. The nearest spring is 50,832 feet to the southwest. All stream, river, water body and spring information was determined as per the USGS Hydrographic Dataset (High Resolution), downloaded 3/2008. The nearest water well is 3,343 feet to the southeast. The nearest wetland is a 9.5 acre Ravine located 11,520 feet to the southwest. The slope at this location is 0 degrees to the north as calculated from USGS 30M National Elevation Dataset. This information is also discerned from the aerial and topographic map included. The surface geology at this location is SAN JOSE FORMATION--Siltstone, shale, and sandstone with a Sandstone dominated formations of all ages substrate. The soil at this location is 'Gobernador-Orlie association, 0 to 8 percent slopes' and is well drained and not hydric with slight erosion potential as taken from the NRCS SSURGO map unit, downloaded January 2008. The nearest underground mine is 1.9 miles to the east as indicated on the Mines, Mills and Quarries Map of New Mexico provided.

Regional Hydrogeological context:

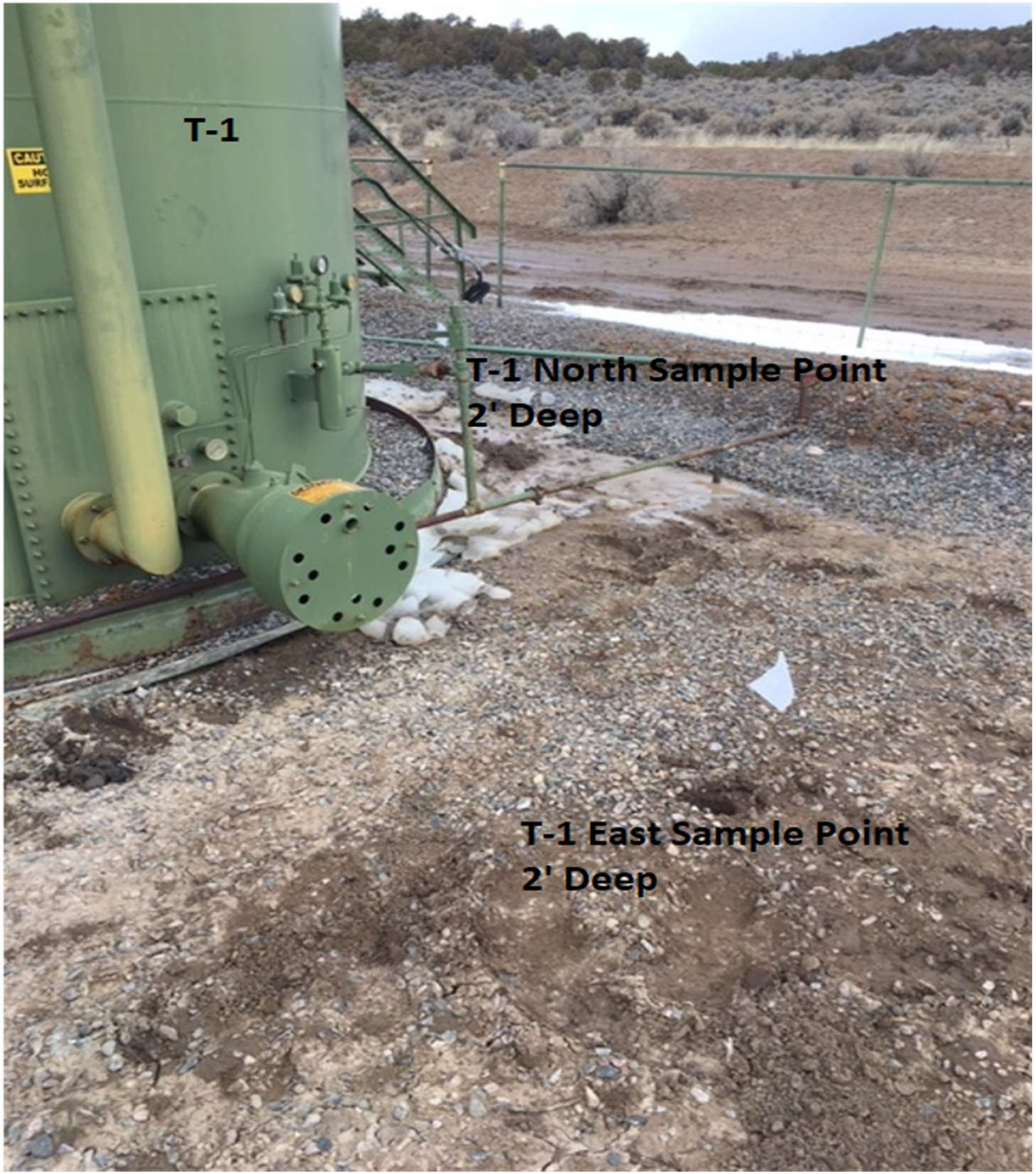
The San Jose Formation of Eocene age occurs in New Mexico and Colorado, and its outcrop forms the land surface over much of the eastern half of the central basin. It overlies the Nacimiento Formation in the area generally south of the Colorado-New Mexico State line and overlies the Animas Formation in the area generally north of the State line. The San Jose Formation was deposited in various fluvial-type environments. In general, the unit consists of an interbedded sequence of sandstone, siltstone, and variegated shale. Thickness of the San Jose Formation generally increases from west to east (200 feet in the west and south to almost 2,700 feet in the center of the structural basin). Ground water is associated with alluvial and fluvial sandstone aquifers. Thus, the occurrence of ground water is mainly controlled by the distribution of sandstone in the formation. The distribution of such sandstone is the result of original depositional extent plus any post-depositional modifications, namely erosion and structural deformation. Transmissivity data for San Jose Formation are minimal. Values of 40 and 120 feet squared per day were determined from two aquifer tests (Stone et al, 1983, table 5). The reported or measured discharge from 46 water wells completed in San Jose Formation ranges from 0.15 to 61 gallons per minute and the median is 5 gallons per minute. Most of the wells provide water for livestock and domestic use. The San Jose Formation is a very suitable unit for recharge from precipitation because soils that form on the unit are sandy and highly permeable and therefore readily adsorb precipitation. However, low annual precipitation, relatively high transpiration and evaporation rates, and deep dissection of the San Jose Formation by the San Juan River and its tributaries all tend to reduce the effective recharge to the unit.

Stone et al., 1983, Hydrogeology and Water Resources of the San Juan Basin, New Mexico: Socorro, New Mexico Bureau of Mines and Mineral Resources Hydrologic Report 6, 70 p.

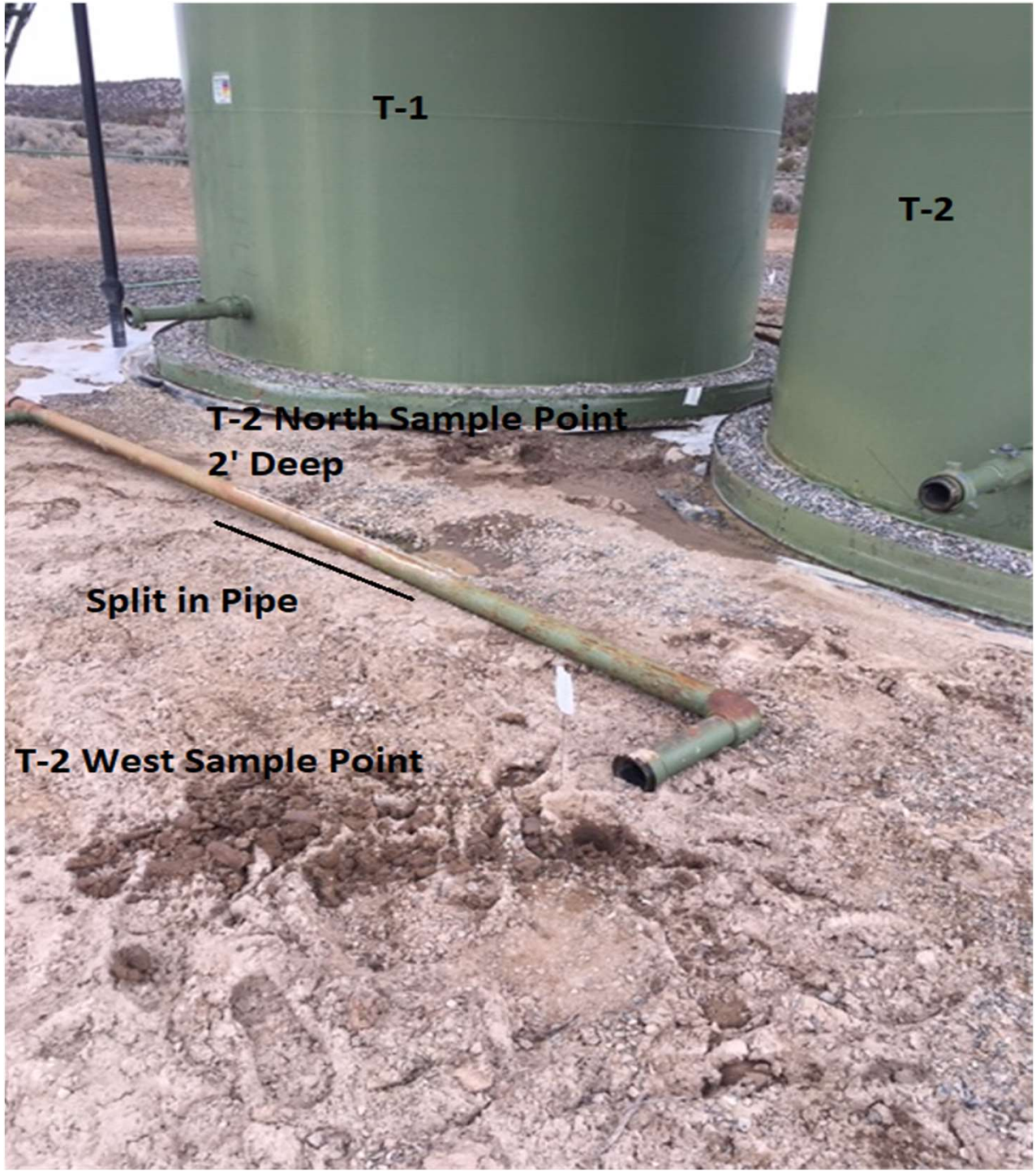
Sample field notes



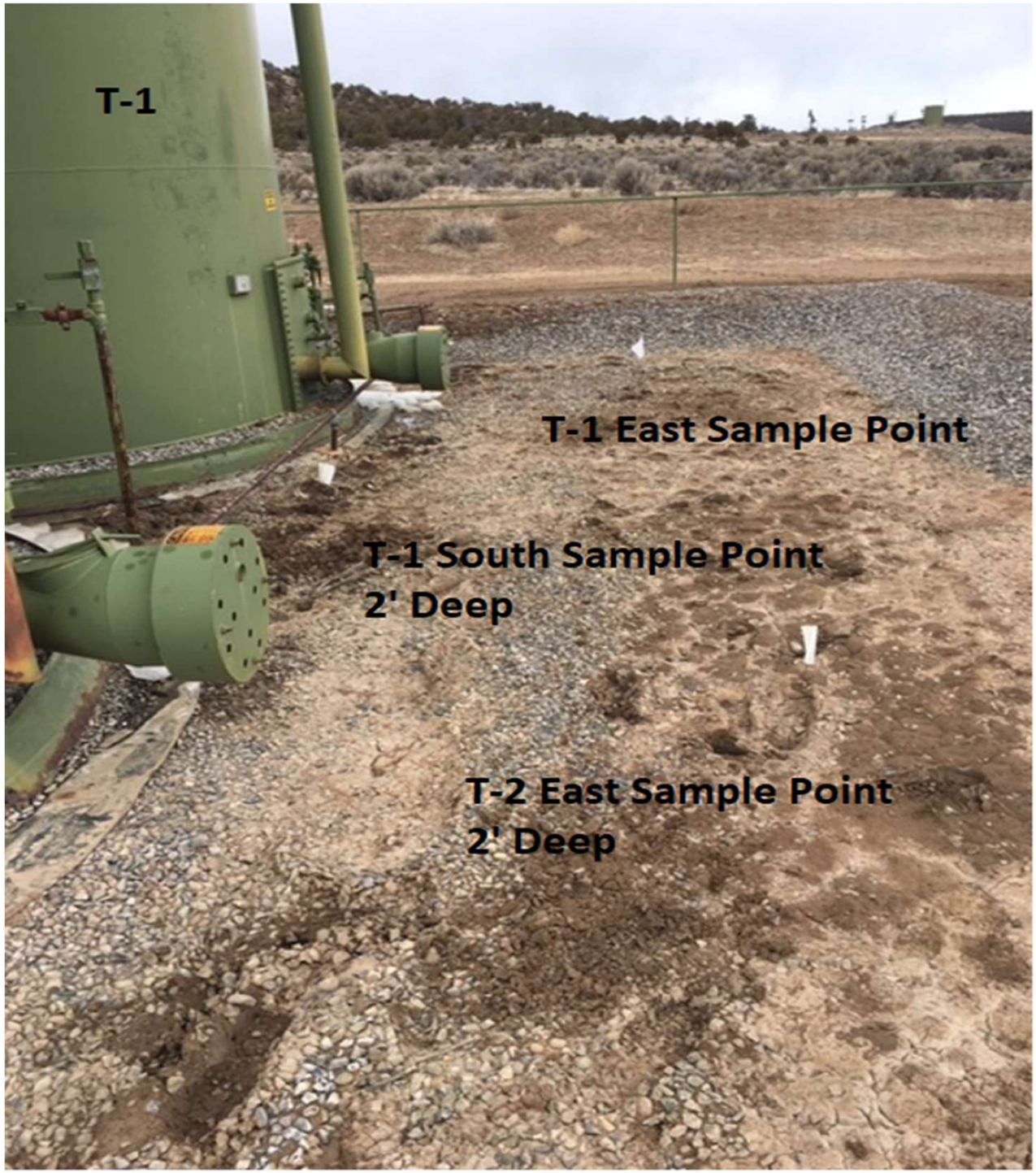
NW View – 3/1/22 at 10:00 am, 36.837480°N 107.367905°W



NE View – 3/1/22 at 10:00 am, 36.837462°N 107.368007°W

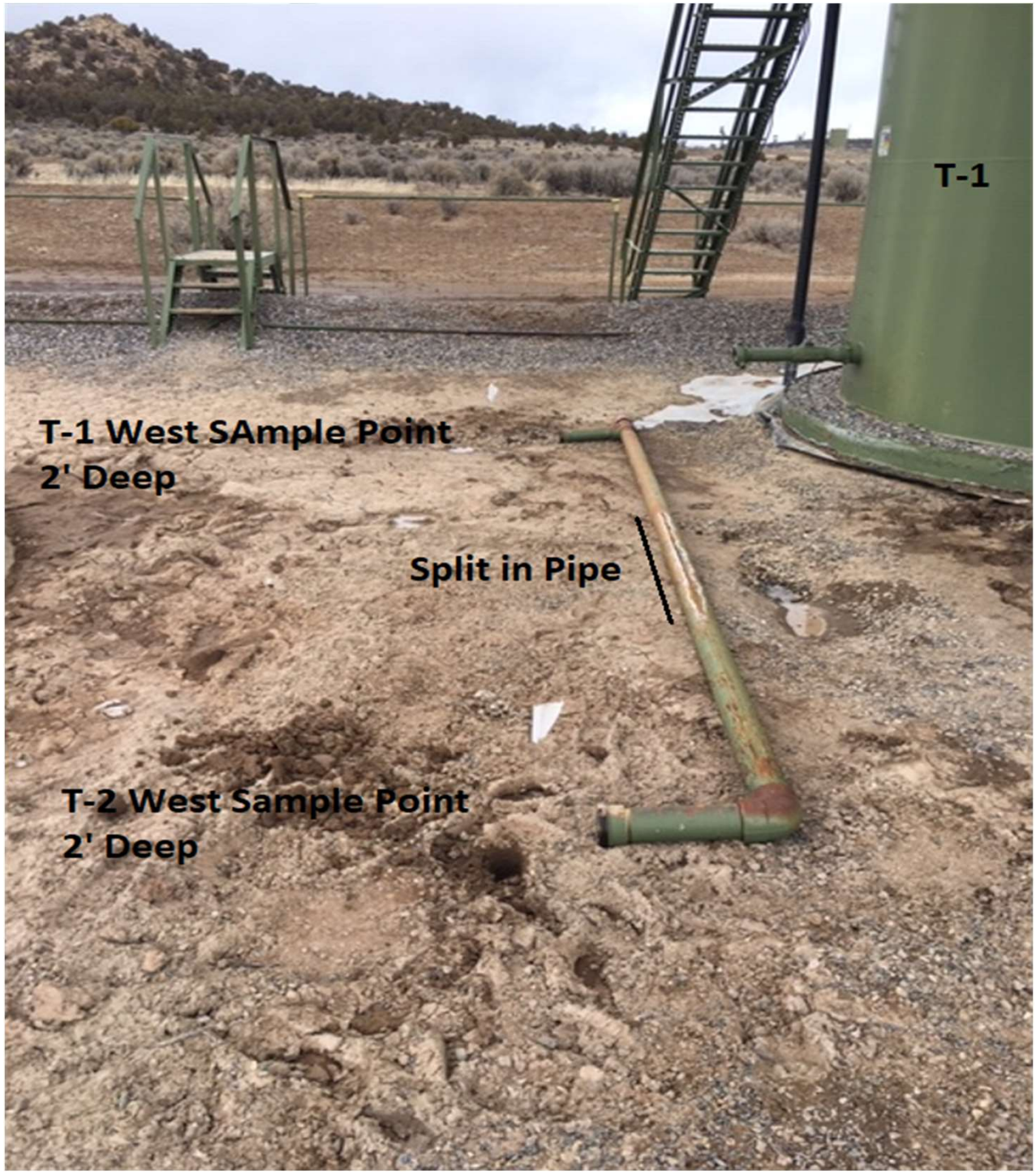


North View – 3/1/22 at 10:00 am, 36.837440°N 107.367910°W



West View – 3/1/22 at 10:00 am, 36.837427°N 107.367889°W

North View – 3/1/22 at 10:00 am, 36.837452°N 107.367997°W



Data table of soil contaminant concentration data

TABLE 1

SOIL ANALYTICAL RESULTS
CAT DRAW 100
HILCORP ENERGY - L48 WEST

Soil Sample Identification	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	Chlorides (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	TPH GRO+DRO+MRO (mg/kg)
T-1 N 2 1/2'	3/1/2022	<0.024	<0.048	<0.048	<0.096	ND	200	<4.8	<9.9	<49	N/A
T-1 N 0-6"	3/1/2022	<0.024	<0.048	<0.048	<0.097	ND	74	<4.8	<9.6	<48	N/A
T-1 E 2'4"	3/1/2022	<0.024	<0.049	<0.049	<0.098	ND	190	<4.9	<9.4	<47	N/A
T-1 E 0-6"	3/1/2022	<0.025	<0.049	<0.049	<0.098	ND	100	<4.9	<9.2	<46	N/A
T-1 S 0-6"	3/1/2022	<0.024	<0.048	<0.048	<0.096	ND	160	<4.8	<8.4	<42	N/A
T-1S 2'	3/1/2022	<0.024	<0.048	<0.048	<0.095	ND	130	<4.8	<9.2	<46	N/A
T-2E 0-6"	3/1/2022	<0.024	<0.048	<0.048	<0.096	ND	190	<4.8	<9.8	<49	N/A
T-2E 2'	3/1/2022	<0.024	<0.048	<0.048	<0.095	ND	190	<4.8	<10	<50	N/A
T-2S 2'4"	3/1/2022	<0.025	<0.050	<0.050	<0.10	ND	110	<5.0	<8.8	<44	N/A
T-2S 0-6"	3/1/2022	<0.023	<0.047	<0.047	<0.093	ND	130	<4.7	<9.1	<45	N/A
T-2W 2'6"	3/1/2022	<0.025	<0.049	<0.049	<0.099	ND	<60	<4.9	<9.2	<46	N/A
T-2W 0-6"	3/1/2022	<0.024	<0.047	<0.047	<0.094	ND	290	<4.7	<8.3	<42	N/A
T-2N 0-6"	3/1/2022	<0.025	<0.050	<0.050	<0.099	ND	160	<5.0	<9.7	<49	N/A
T-2N 1'10"	3/1/2022	<0.023	<0.047	<0.047	<0.093	ND	220	<4.7	<8.7	<44	N/A
T-1W 0-6"	3/1/2022	<0.025	<0.050	<0.050	<0.10	ND	380	<5.0	<8.7	<44	N/A
T-1W 1'10"	3/1/2022	<0.024	<0.048	<0.048	<0.096	ND	330	<4.8	<9.1	<45	N/A
NMOCD Table 1 Closure Criteria		**10**	**NE**	**NE**	**NE**	**50**	**600**	**NE**	**NE**	**NE**	**100**

Note: Confirmation samples were collected every two-hundred (200) square feet on 3/1/2022 by Hilcorp personnel. All samples came back below action levels.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 09, 2022

Billy Ginn
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX

RE: Cat Draw 100 OrderNo.: 2203071

Dear Billy Ginn:

Hall Environmental Analysis Laboratory received 16 sample(s) on 3/2/2022 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 **2203071**
Date Reported: **3/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: T-1 N 2 1/2'
Project: Cat Draw 100
Collection Date: 3/1/2022 10:12:00 AM
Lab ID: 2203071-001 **Matrix:** SOIL
Received Date: 3/2/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/3/2022 8:10:41 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/3/2022 8:10:41 PM
Surr: DNOP	96.1	51.1-141		%Rec	1	3/3/2022 8:10:41 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2022 3:11:17 PM
Surr: BFB	114	70-130		%Rec	1	3/3/2022 3:11:17 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2022 3:11:17 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2022 3:11:17 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2022 3:11:17 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/3/2022 3:11:17 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	3/3/2022 3:11:17 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	200	60		mg/Kg	20	3/3/2022 10:41:29 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 **2203071**
Date Reported: **3/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: T-1 N 0-6"
Project: Cat Draw 100
Collection Date: 3/1/2022 10:15:00 AM
Lab ID: 2203071-002 **Matrix:** SOIL **Received Date:** 3/2/2022 7:30:00 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	3/3/2022 8:21:28 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/3/2022 8:21:28 PM
Surr: DNOP	99.0	51.1-141		%Rec	1	3/3/2022 8:21:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2022 3:34:43 PM
Surr: BFB	113	70-130		%Rec	1	3/3/2022 3:34:43 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2022 3:34:43 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2022 3:34:43 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2022 3:34:43 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/3/2022 3:34:43 PM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	3/3/2022 3:34:43 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	74	60		mg/Kg	20	3/3/2022 10:53:53 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	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 **2203071**
Date Reported: **3/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: T-1 E 2'4"
Project: Cat Draw 100
Collection Date: 3/1/2022 10:20:00 AM
Lab ID: 2203071-003 **Matrix:** SOIL **Received Date:** 3/2/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/3/2022 8:32:17 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/3/2022 8:32:17 PM
Surr: DNOP	92.8	51.1-141		%Rec	1	3/3/2022 8:32:17 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2022 3:58:25 PM
Surr: BFB	112	70-130		%Rec	1	3/3/2022 3:58:25 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2022 3:58:25 PM
Toluene	ND	0.049		mg/Kg	1	3/3/2022 3:58:25 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2022 3:58:25 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/3/2022 3:58:25 PM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	3/3/2022 3:58:25 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	190	60		mg/Kg	20	3/3/2022 11:31:06 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 **2203071**
Date Reported: **3/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: T-1 E 0-6"
Project: Cat Draw 100
Collection Date: 3/1/2022 10:23:00 AM
Lab ID: 2203071-004 **Matrix:** SOIL **Received Date:** 3/2/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/3/2022 8:43:04 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/3/2022 8:43:04 PM
Surr: DNOP	97.7	51.1-141		%Rec	1	3/3/2022 8:43:04 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2022 4:21:57 PM
Surr: BFB	112	70-130		%Rec	1	3/3/2022 4:21:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2022 4:21:57 PM
Toluene	ND	0.049		mg/Kg	1	3/3/2022 4:21:57 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2022 4:21:57 PM
Xylenes, Total	ND	0.098		mg/Kg	1	3/3/2022 4:21:57 PM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	3/3/2022 4:21:57 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	100	60		mg/Kg	20	3/3/2022 11:43:31 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 **2203071**
Date Reported: **3/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: T-1S 0-6"
Project: Cat Draw 100
Collection Date: 3/1/2022 10:25:00 AM
Lab ID: 2203071-005 **Matrix:** SOIL **Received Date:** 3/2/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	3/3/2022 8:53:50 PM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	3/3/2022 8:53:50 PM
Surr: DNOP	98.4	51.1-141		%Rec	1	3/3/2022 8:53:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2022 4:45:21 PM
Surr: BFB	112	70-130		%Rec	1	3/3/2022 4:45:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2022 4:45:21 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2022 4:45:21 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2022 4:45:21 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/3/2022 4:45:21 PM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	3/3/2022 4:45:21 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	160	60		mg/Kg	20	3/3/2022 11:55:56 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2203071**
Date Reported: **3/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: T-1S 2'
Project: Cat Draw 100
Collection Date: 3/1/2022 10:32:00 AM
Lab ID: 2203071-006 **Matrix:** SOIL **Received Date:** 3/2/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/3/2022 9:04:34 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/3/2022 9:04:34 PM
Surr: DNOP	98.4	51.1-141		%Rec	1	3/3/2022 9:04:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2022 5:08:46 PM
Surr: BFB	114	70-130		%Rec	1	3/3/2022 5:08:46 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2022 5:08:46 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2022 5:08:46 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2022 5:08:46 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/3/2022 5:08:46 PM
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	1	3/3/2022 5:08:46 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	130	60		mg/Kg	20	3/4/2022 12:08:20 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2203071**
Date Reported: **3/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: T-2E 0-6"
Project: Cat Draw 100
Collection Date: 3/1/2022 10:34:00 AM
Lab ID: 2203071-007 **Matrix:** SOIL **Received Date:** 3/2/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/3/2022 9:15:17 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/3/2022 9:15:17 PM
Surr: DNOP	97.4	51.1-141		%Rec	1	3/3/2022 9:15:17 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2022 5:32:11 PM
Surr: BFB	113	70-130		%Rec	1	3/3/2022 5:32:11 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2022 5:32:11 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2022 5:32:11 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2022 5:32:11 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/3/2022 5:32:11 PM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	3/3/2022 5:32:11 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	190	60		mg/Kg	20	3/4/2022 12:20:44 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2203071**
Date Reported: **3/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: T-2E 2'
Project: Cat Draw 100
Collection Date: 3/1/2022 10:42:00 AM
Lab ID: 2203071-008 **Matrix:** SOIL **Received Date:** 3/2/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/3/2022 9:25:59 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/3/2022 9:25:59 PM
Surr: DNOP	98.8	51.1-141		%Rec	1	3/3/2022 9:25:59 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/3/2022 7:06:32 PM
Surr: BFB	114	70-130		%Rec	1	3/3/2022 7:06:32 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2022 7:06:32 PM
Toluene	ND	0.048		mg/Kg	1	3/3/2022 7:06:32 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/3/2022 7:06:32 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/3/2022 7:06:32 PM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	3/3/2022 7:06:32 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	190	60		mg/Kg	20	3/4/2022 12:33:08 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 **2203071**
Date Reported: **3/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: T-2S 2'4"
Project: Cat Draw 100
Collection Date: 3/1/2022 10:45:00 AM
Lab ID: 2203071-009 **Matrix:** SOIL **Received Date:** 3/2/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	3/3/2022 9:36:40 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	3/3/2022 9:36:40 PM
Surr: DNOP	96.2	51.1-141		%Rec	1	3/3/2022 9:36:40 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/3/2022 7:30:11 PM
Surr: BFB	112	70-130		%Rec	1	3/3/2022 7:30:11 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2022 7:30:11 PM
Toluene	ND	0.050		mg/Kg	1	3/3/2022 7:30:11 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/3/2022 7:30:11 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/3/2022 7:30:11 PM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	3/3/2022 7:30:11 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	110	60		mg/Kg	20	3/4/2022 11:36:32 AM

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

Qualifiers:

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

Analytical Report
Lab Order **2203071**
Date Reported: **3/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: T-2S 0-6"
Project: Cat Draw 100
Collection Date: 3/1/2022 10:47:00 AM
Lab ID: 2203071-010 **Matrix:** SOIL
Received Date: 3/2/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	3/3/2022 9:47:22 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	3/3/2022 9:47:22 PM
Surr: DNOP	92.2	51.1-141		%Rec	1	3/3/2022 9:47:22 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2022 7:53:45 PM
Surr: BFB	109	70-130		%Rec	1	3/3/2022 7:53:45 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2022 7:53:45 PM
Toluene	ND	0.047		mg/Kg	1	3/3/2022 7:53:45 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2022 7:53:45 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/3/2022 7:53:45 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	3/3/2022 7:53:45 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	130	60		mg/Kg	20	3/4/2022 11:48:56 AM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 **2203071**
Date Reported: **3/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: T-2W 2'6"
Project: Cat Draw 100
Collection Date: 3/1/2022 10:50:00 AM
Lab ID: 2203071-011 **Matrix:** SOIL **Received Date:** 3/2/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/3/2022 9:58:06 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/3/2022 9:58:06 PM
Surr: DNOP	94.5	51.1-141		%Rec	1	3/3/2022 9:58:06 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/3/2022 8:17:12 PM
Surr: BFB	112	70-130		%Rec	1	3/3/2022 8:17:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2022 8:17:12 PM
Toluene	ND	0.049		mg/Kg	1	3/3/2022 8:17:12 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/3/2022 8:17:12 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/3/2022 8:17:12 PM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	3/3/2022 8:17:12 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	ND	60		mg/Kg	20	3/4/2022 12:01:21 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2203071**
Date Reported: **3/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: T-2W 0-6"
Project: Cat Draw 100
Collection Date: 3/1/2022 10:53:00 AM
Lab ID: 2203071-012 **Matrix:** SOIL **Received Date:** 3/2/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	8.3		mg/Kg	1	3/3/2022 10:08:50 PM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	3/3/2022 10:08:50 PM
Surr: DNOP	93.4	51.1-141		%Rec	1	3/3/2022 10:08:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2022 8:40:57 PM
Surr: BFB	108	70-130		%Rec	1	3/3/2022 8:40:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	3/3/2022 8:40:57 PM
Toluene	ND	0.047		mg/Kg	1	3/3/2022 8:40:57 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2022 8:40:57 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/3/2022 8:40:57 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	3/3/2022 8:40:57 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	290	60		mg/Kg	20	3/4/2022 12:13:45 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 **2203071**
Date Reported: **3/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: T-2N 0-6"
Project: Cat Draw 100
Collection Date: 3/1/2022 10:59:00 AM
Lab ID: 2203071-013 **Matrix:** SOIL **Received Date:** 3/2/2022 7:30:00 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	3/3/2022 10:19:34 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/3/2022 10:19:34 PM
Surr: DNOP	95.4	51.1-141		%Rec	1	3/3/2022 10:19:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/3/2022 9:04:39 PM
Surr: BFB	112	70-130		%Rec	1	3/3/2022 9:04:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	3/3/2022 9:04:39 PM
Toluene	ND	0.050		mg/Kg	1	3/3/2022 9:04:39 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/3/2022 9:04:39 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/3/2022 9:04:39 PM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	3/3/2022 9:04:39 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	160	60		mg/Kg	20	3/4/2022 12:50:58 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 **2203071**
Date Reported: **3/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** T-2N 1'10"
Project: Cat Draw 100 **Collection Date:** 3/1/2022 11:05:00 AM
Lab ID: 2203071-014 **Matrix:** SOIL **Received Date:** 3/2/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	3/3/2022 10:30:19 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	3/3/2022 10:30:19 PM
Surr: DNOP	95.6	51.1-141		%Rec	1	3/3/2022 10:30:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/3/2022 9:28:15 PM
Surr: BFB	108	70-130		%Rec	1	3/3/2022 9:28:15 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	3/3/2022 9:28:15 PM
Toluene	ND	0.047		mg/Kg	1	3/3/2022 9:28:15 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/3/2022 9:28:15 PM
Xylenes, Total	ND	0.093		mg/Kg	1	3/3/2022 9:28:15 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	3/3/2022 9:28:15 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	220	60		mg/Kg	20	3/4/2022 1:03:22 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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 **2203071**
Date Reported: **3/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: T-1W 0-6"
Project: Cat Draw 100
Collection Date: 3/1/2022 11:07:00 AM
Lab ID: 2203071-015 **Matrix:** SOIL **Received Date:** 3/2/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	3/4/2022 11:57:27 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	3/4/2022 11:57:27 AM
Surr: DNOP	93.9	51.1-141		%Rec	1	3/4/2022 11:57:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/5/2022 4:05:00 PM
Surr: BFB	104	70-130		%Rec	1	3/5/2022 4:05:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	3/5/2022 4:05:00 PM
Toluene	ND	0.050		mg/Kg	1	3/5/2022 4:05:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/5/2022 4:05:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/5/2022 4:05:00 PM
Surr: 4-Bromofluorobenzene	88.8	70-130		%Rec	1	3/5/2022 4:05:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	380	60		mg/Kg	20	3/4/2022 1:15:46 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2203071**
Date Reported: **3/9/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: T-1W 1'10"
Project: Cat Draw 100
Collection Date: 3/1/2022 11:10:00 AM
Lab ID: 2203071-016 **Matrix:** SOIL **Received Date:** 3/2/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	3/4/2022 12:08:20 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	3/4/2022 12:08:20 PM
Surr: DNOP	89.4	51.1-141		%Rec	1	3/4/2022 12:08:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/5/2022 4:25:00 PM
Surr: BFB	107	70-130		%Rec	1	3/5/2022 4:25:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	3/5/2022 4:25:00 PM
Toluene	ND	0.048		mg/Kg	1	3/5/2022 4:25:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/5/2022 4:25:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/5/2022 4:25:00 PM
Surr: 4-Bromofluorobenzene	88.6	70-130		%Rec	1	3/5/2022 4:25:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Chloride	330	60		mg/Kg	20	3/4/2022 1:28:11 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
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#: **2203071**
09-Mar-22

Client: HILCORP ENERGY
Project: Cat Draw 100

Sample ID: **MB-65944** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **65944** RunNo: **86250**
Prep Date: **3/3/2022** Analysis Date: **3/3/2022** SeqNo: **3040801** Units: **mg/Kg**

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

Sample ID: **LCS-65944** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **65944** RunNo: **86250**
Prep Date: **3/3/2022** Analysis Date: **3/3/2022** SeqNo: **3040802** Units: **mg/Kg**

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

Sample ID: **MB-65944** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **65944** RunNo: **86255**
Prep Date: **3/3/2022** Analysis Date: **3/4/2022** SeqNo: **3041601** Units: **mg/Kg**

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

Sample ID: **LCS-65944** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **65944** RunNo: **86255**
Prep Date: **3/3/2022** Analysis Date: **3/4/2022** SeqNo: **3041602** Units: **mg/Kg**

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

Sample ID: **MB-65960** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **65960** RunNo: **86255**
Prep Date: **3/4/2022** Analysis Date: **3/4/2022** SeqNo: **3041604** Units: **mg/Kg**

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

Sample ID: **LCS-65960** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **65960** RunNo: **86255**
Prep Date: **3/4/2022** Analysis Date: **3/4/2022** SeqNo: **3041605** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.9	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical 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#: **2203071**
09-Mar-22

Client: HILCORP ENERGY
Project: Cat Draw 100

Sample ID: **LCS-65927** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **65927** RunNo: **86217**
Prep Date: **3/3/2022** Analysis Date: **3/3/2022** SeqNo: **3039862** 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	91.6	68.9	135			
Surr: DNOP	3.6		5.000		71.8	51.1	141			

Sample ID: **MB-65927** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **65927** RunNo: **86217**
Prep Date: **3/3/2022** Analysis Date: **3/3/2022** SeqNo: **3039865** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.9		10.00		79.0	51.1	141			

Sample ID: **LCS-65956** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **65956** RunNo: **86243**
Prep Date: **3/4/2022** Analysis Date: **3/4/2022** SeqNo: **3040888** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.3	68.9	135			
Surr: DNOP	4.3		5.000		86.5	51.1	141			

Sample ID: **MB-65956** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **65956** RunNo: **86243**
Prep Date: **3/4/2022** Analysis Date: **3/4/2022** SeqNo: **3040890** 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	9.4		10.00		94.0	51.1	141			

Sample ID: **2203071-015AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **T-1W 0-6"** Batch ID: **65956** RunNo: **86243**
Prep Date: **3/4/2022** Analysis Date: **3/4/2022** SeqNo: **3041596** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.40	0	93.3	39.3	155			
Surr: DNOP	4.1		5.040		81.8	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#: **2203071**
09-Mar-22

Client: HILCORP ENERGY
Project: Cat Draw 100

Sample ID: **2203071-015AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **T-1W 0-6"** Batch ID: **65956** RunNo: **86243**
Prep Date: **3/4/2022** Analysis Date: **3/4/2022** SeqNo: **3041597** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.15	0	94.2	39.3	155	0.417	23.4	
Surr: DNOP	4.2		5.015		84.7	51.1	141	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#: **2203071**
09-Mar-22

Client: HILCORP ENERGY
Project: Cat Draw 100

Sample ID: **mb-65901** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **65901** RunNo: **86234**
Prep Date: **3/2/2022** Analysis Date: **3/3/2022** SeqNo: **3039486** 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		109	70	130			

Sample ID: **lcs-65901** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **65901** RunNo: **86234**
Prep Date: **3/2/2022** Analysis Date: **3/3/2022** SeqNo: **3039493** 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	96.8	78.6	131			
Surr: BFB	1200		1000		121	70	130			

Sample ID: **lcs-65929** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **65929** RunNo: **86257**
Prep Date: **3/3/2022** Analysis Date: **3/5/2022** SeqNo: **3041862** 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	116	78.6	131			
Surr: BFB	1100		1000		112	70	130			

Sample ID: **mb-65929** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **65929** RunNo: **86257**
Prep Date: **3/3/2022** Analysis Date: **3/5/2022** SeqNo: **3041863** 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	70	130			

Sample ID: **2203071-015ams** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **T-1W 0-6"** Batch ID: **65929** RunNo: **86257**
Prep Date: **3/3/2022** Analysis Date: **3/5/2022** SeqNo: **3041966** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.9	24.61	0	105	70	130			
Surr: BFB	1200		984.3		119	70	130			

Sample ID: **2203071-015amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **T-1W 0-6"** Batch ID: **65929** RunNo: **86257**
Prep Date: **3/3/2022** Analysis Date: **3/5/2022** SeqNo: **3041967** Units: **mg/Kg**

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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#: **2203071**
09-Mar-22

Client: HILCORP ENERGY
Project: Cat Draw 100

Sample ID: **2203071-015amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **T-1W 0-6"** Batch ID: **65929** RunNo: **86257**
Prep Date: **3/3/2022** Analysis Date: **3/5/2022** SeqNo: **3041967** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.9	24.44	0	107	70	130	1.80	20	
Surr: BFB	1200		977.5		122	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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2203071**
09-Mar-22

Client: HILCORP ENERGY
Project: Cat Draw 100

Sample ID: **mb-65901** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **65901** RunNo: **86234**
Prep Date: **3/2/2022** Analysis Date: **3/3/2022** SeqNo: **3039660** 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-65901** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **65901** RunNo: **86234**
Prep Date: **3/2/2022** Analysis Date: **3/3/2022** SeqNo: **3039661** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	83.2	80	120			
Toluene	0.89	0.050	1.000	0	89.4	80	120			
Ethylbenzene	0.91	0.050	1.000	0	91.4	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.6	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	70	130			

Sample ID: **lcs-65929** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **65929** RunNo: **86257**
Prep Date: **3/3/2022** Analysis Date: **3/5/2022** SeqNo: **3041916** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.2	80	120			
Toluene	0.93	0.050	1.000	0	93.3	80	120			
Ethylbenzene	0.95	0.050	1.000	0	94.8	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.1	80	120			
Surr: 4-Bromofluorobenzene	0.86		1.000		86.0	70	130			

Sample ID: **mb-65929** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **65929** RunNo: **86257**
Prep Date: **3/3/2022** Analysis Date: **3/5/2022** SeqNo: **3041917** 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	0.88		1.000		87.9	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2203071**
09-Mar-22

Client: HILCORP ENERGY
Project: Cat Draw 100

Sample ID: **2203071-016ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **T-1W 1'10"** Batch ID: **65929** RunNo: **86257**
Prep Date: **3/3/2022** Analysis Date: **3/5/2022** SeqNo: **3041920** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	0.9960	0	82.9	68.8	120			
Toluene	0.85	0.050	0.9960	0	85.8	73.6	124			
Ethylbenzene	0.87	0.050	0.9960	0	87.8	72.7	129			
Xylenes, Total	2.6	0.10	2.988	0	87.8	75.7	126			
Surr: 4-Bromofluorobenzene	0.89		0.9960		89.3	70	130			

Sample ID: **2203071-016amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **T-1W 1'10"** Batch ID: **65929** RunNo: **86257**
Prep Date: **3/3/2022** Analysis Date: **3/5/2022** SeqNo: **3041921** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	0.9930	0	84.2	68.8	120	1.30	20	
Toluene	0.87	0.050	0.9930	0	88.0	73.6	124	2.26	20	
Ethylbenzene	0.89	0.050	0.9930	0	89.7	72.7	129	1.83	20	
Xylenes, Total	2.7	0.099	2.979	0	89.6	75.7	126	1.74	20	
Surr: 4-Bromofluorobenzene	0.87		0.9930		88.1	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical 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: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2203071 RcptNo: 1

Received By: Tracy Casarrubias 3/2/2022 7:30:00 AM

Completed By: Tracy Casarrubias 3/2/2022 8:32:11 AM

Reviewed By: CM 3/2/22

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: KPG 3/2/22

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	1.9	Good	Yes			
2	2.3	Good	Yes			

Chain-of-Custody Record

Client: Hilcorp

Mailing Address:

Phone #: 505-486-9543

email or Fax#: bginn@hilcorp.com

QA/QC Package: Knockstra@hilcorp.com

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance ☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: NEED RESULTS by FRIDAY 3-4-22 @ 3:00 pm.

☐ Standard ☒ Rush

Project Name: CAT DRAW 100

Project #:

Project Manager: Billy Ginn

Sampler: Kurt

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp(Including CF): 1.) 1.9-0=1.9 (°C) 2.) 2.3-0=2.3

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2203071	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)	Chloride 300.0
3-1	10:12	SS	T-1 N 2½'	4oz Jar	ON ICE	001	X	X									X
	10:15		T-1 N 0-6"			002	X	X									X
	10:20		T-1 E 2'4"			003	X	X									X
	10:23		T-1 E 0-6"			004	X	X									X
	10:25		T-1S 0-6"			005	X	X									X
	10:32		T-1 S 2'			006	X	X									X
	10:34		T-2 E 0-6'			007	X	X									X
	10:42		T-2 E 2'			008	X	X									X
	10:45		T-2S 2'4"			009	X	X									X
	10:47		T-2S 0-6"			010	X	X									X
	10:50		T-2W 2'6"			011	X	X									X
	10:53		T-2W 0-6"			012	X	X									X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
3-1	1544	Kurt Hoekstra	Mint Wall		3/1/22	1544
3/1/22	1754	Mint Wall			3/2/22	7:30

Remarks:

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

Chain-of-Custody Record

Client: Hilcorp

Mailing Address:

Phone #: 505-486-9543

email or Fax#: bginn@hilcorp.com

QA/QC Package: khoekstra@hilcorp.com

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: NEED RESULTS by FRIDAY 3-4-22 @ 3:00 pm

☐ Standard ☒ Rush

Project Name: CAT DRAW 100

Project #:

Project Manager: Billy Ginn

Sampler: Kurt

On Ice: ☒ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 1.) 1.9-Ø=1.9 (°C) 2.) 2.3-Ø=2.3

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.	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)	Chloride 300.0
3-1	10:59	SS	T-2N 0-6"	4oz Jar	ON ICE	013	X	X									X
	11:05		T-2N 1'10"			014	X	X									X
	11:07		T-1W 0-6"			015	X	X									X
	11:10		T-1W 1'10"			016	X	X									X

Analysis Request

Remarks:

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
3-1	1544	Kurt Hoekstra	Chad Walk		3/1/22	1544
3/1/22	1754	Chad Walk		Courier	3/2/22	7:30

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.

Billy Ginn

From: OCDOnline@state.nm.us
Sent: Monday, February 21, 2022 8:33 AM
To: Billy Ginn
Subject: [EXTERNAL] The Oil Conservation Division (OCD) has accepted the application, Application ID: 82865

To whom it may concern (c/o William Ginn for HILCORP ENERGY COMPANY),

The OCD has accepted the submitted *Notification of a release* (NOR), for incident ID (n#) nAPP2205227171, with the following conditions:

- **When submitting future reports regarding this release, please submit the calculations used or specific justification for the volumes reported on the initial C-141.**

Please reference nAPP2205227171, on all subsequent C-141 submissions and communications regarding the remediation of this release.
NOTE: As of December 2019, NMOCD has discontinued the use of the “RP” number.
If you have any questions regarding this application, or don't know why you have received this email, please contact us.

ocd.enviro@state.nm.us

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

2/21/2022

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division

Receipt of Fee Application Payment

PO Number: U4YLS-220221-C-1410

Payment Date:	2/21/2022 8:08:26 AM
Payment Amount:	$150.00
Payment Type:	Credit Card

Application Type:	Application for administrative approval of a release notification and corrective action
Fee Amount:	$150.00
Application Status:	Under OCD Review

OGRID:	372171
First Name:	William
Last Name:	Ginn
Email:	William.Ginn@hilcorp.com

IMPORTANT: If you are mailing or delivering your application, you must print and include your receipt of payment as the first page on your application. All mailed and delivered applications must be sent to the following address: 1220 S. St. Francis Dr., Santa Fe, NM 87505. For inquiries, reference the PO Number listed above.

Billy Ginn

From: OCDOnline@state.nm.us
Sent: Monday, February 21, 2022 2:38 PM
To: Billy Ginn
Subject: [EXTERNAL] The Oil Conservation Division (OCD) has approved the application, Application ID: 82870

To whom it may concern (c/o William Ginn for HILCORP ENERGY COMPANY),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2205227171,
with the following conditions:

- **When submitting future reports regarding this release, please submit the calculations used or specific justification for the volumes reported on the initial C-141**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,
Ramona Marcus
Program Coordinator I
505-470-3044
Ramona.Marcus@state.nm.us

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

Billy Ginn

From: Velez, Nelson, EMNRD <Nelson.Velez@state.nm.us>
Sent: Friday, February 25, 2022 2:40 PM
To: Billy Ginn; Enviro, OCD, EMNRD; Abiodun Adeloye
Cc: Hyde, Stuart; Kurt Hoekstra; Bratcher, Mike, EMNRD
Subject: RE: [EXTERNAL] NAPP2205227171 - Cat Draw 100 Notification of Delineation and Confirmation Soil Sampling

Billy,

Thank you for the notice. If an OCD representative is not on-site on the date and time given, please sample per 19.15.29 NMAC. If for some reason the date and/or time have changed, please notify the OCD as soon as possible so we may adjust our schedules. Failure to notify the OCD of date/time changes may result in the closure sample(s) not being accepted.

Please keep a copy of this communication for inclusion within the final closure report submittal.

The OCD requires a copy of all correspondence relative to remedial activities be included in all proposal and/or final closure reports.

Correspondence required to be included in reports may include, but not limited to, time extension requests, liner inspection notifications, sample event notifications, spill/release/fire notifications, and variance requests.

Thanks again.

Nelson Velez • Environmental Specialist - Adv
Environmental Bureau | EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87410
(505) 469-6146 | nelson.velez@state.nm.us

Hrs.: 7:00–11:00 am & 12:00–3:30 pm Mon.–Thur.
7:00-11:00 am & 12:00-4:00 pm Fri.

From: Billy Ginn <William.Ginn@hilcorp.com>
Sent: Friday, February 25, 2022 12:51 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>; Velez, Nelson, EMNRD <Nelson.Velez@state.nm.us>; Abiodun Adeloye <aadeloye@blm.gov>
Cc: Hyde, Stuart <Stuart.Hyde@wsp.com>; Kurt Hoekstra <khoekstra@hilcorp.com>
Subject: [EXTERNAL] NAPP2205227171 - Cat Draw 100 Notification of Delineation and Confirmation Soil Sampling

All,

Hilcorp Energy Company is submitting this notification for conducting delineation and confirmation soil sampling at the Cat Draw 100 (36.837296, -107.367525) on March 1, 2022 at 9:00 a.m. We will update everyone as soon as possible if the sampling schedule changes.

Please reach out with any questions. Thanks.

Billy Ginn

Hilcorp Energy Company
346-237-2073 (Office)
832-561-4185 (Mobile)

-LAEmHhHzdJzBITWfa4Hgs7pbKI

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

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

CONDITIONS

Action 90919

CONDITIONS

Operator:	OGRID:
HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	372171
	Action Number: 90919
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	3/23/2022