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	nAPP2118959759
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Hilcorp Energy Company	OGRID 372171
Contact Name Mitch Killough	Contact Telephone 713-757-5247
Contact email mkillough@hilcorp.com	Incident # nAPP2118959759
Contact mailing address 1111 Travis Street, Houston, Texas 77002	

Location of Release Source

Latitude 36.999695 Longitude -107.520403
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Allison Unit 13N_13P	Site Type Well Location
Date Release Discovered 6/23/2021 @ 10:30am MT	API# 30-045-34376 (Allison Unit 13N)

Unit Letter	Section	Township	Range	County
F	12	32N	07W	San Juan

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name: Bryce Sean Washburn*)

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) 12	Volume Recovered (bbls) 0
	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:
A volume of 12 bbls produced water was released due to corrosion on a water dump line. The spill amount was determined by operator's monthly gauging data. The released fluids remained on the pad and did not migrate off-site. 0 bbls of free product were recovered since it had soaked into the ground. However, upon discovery, operations shut in the water line and turned in a one call. Once the one call cleared, operations removed 7 yards of visibly stained soil and hauled the material to EnviroTech for disposal. Hilcorp will notify NMOCD 48 hrs prior to confirmation sampling.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2118959759
District RP	
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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?
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:

Note: Upon discovery, the released fluids had already soaked into the ground and no free product was on the surface to recover. Operations shut in the water line and turned in a one call. Once the one call cleared, operations removed 7 yards of visibly stained soil and hauled the material to EnviroTech for disposal.

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: __ Mitch Killough _____ Title: _____Environmental Specialist_____

Signature: _____ _____ Date: 07/08/2021_____

email: ___ mkillough@hilcorp.com _____ Telephone: ____713-757-5247_____

OCD Only

Received by: _____ Date: _____

Incident ID	nAPP2118959759
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?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☒ Yes ☐ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2118959759
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: ___ Mitch Killough _____ Title: ____Environmental Specialist_____

Signature:_____ _____ Date: __09/21/2021_____

email: ___ mkillough@hilcorp.com _____ Telephone: ___(713) 757-5247_____

OCD Only

Received by: _____ Date: _____

Incident ID	nAPP2118959759
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: Mitch Killough Title: Environmental Specialist

Signature: _____ Date: 09/21/2021

email: mkillough@hilcorp.com Telephone: 713-757-5247

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: 03/03/2022

Printed Name: Nelson Velez Title: Environmental Specialist – Adv

Executive Summary

On June 23, 2021, Hilcorp Energy Company (Hilcorp) discovered a release of 12 bbls produced water at the Allison Unit 13N_13P (API: 30-045-34376 / 30-045-34352) located in San Juan County, New Mexico. Upon further inspection, Hilcorp determined that the release occurred due to corrosion on a water dump line. The released fluids remained on the pad and did not migrate off location. No fluids were recovered at the time of the incident. Immediately after shutting in the water dump line, a one call was made prior to any excavation activities.

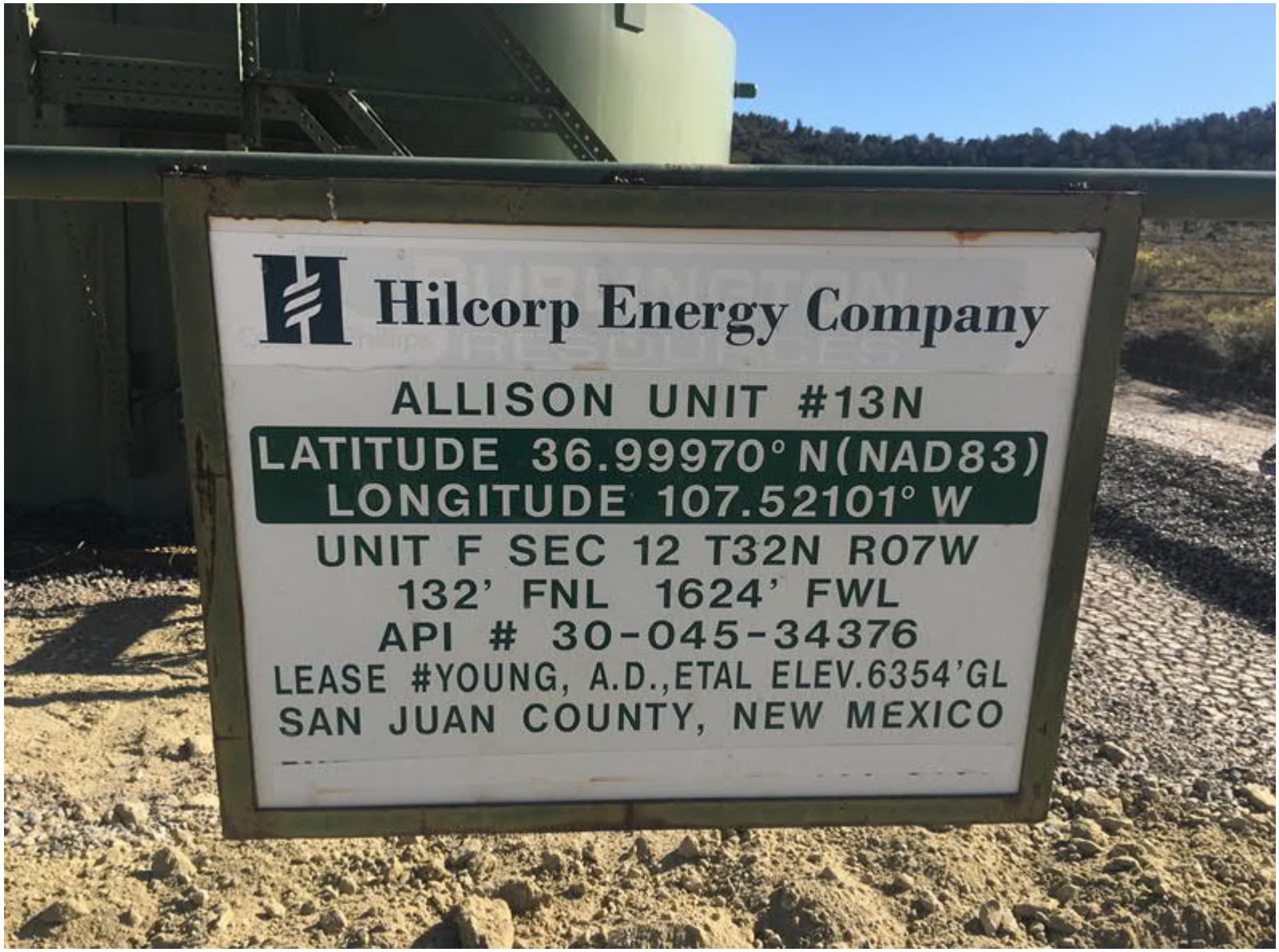
Following the repair of the line, Hilcorp chose to remediate the site via dig/haul with the use of a backhoe. A total of two excavation events occurred during the weeks of June 28 and August 16. A total of 44 cubic yards (yd^3) was excavated from the release area based observed dimensions. However, with expansion, the actual amount accepted by EnviroTech was recorded as 80 yd^3. It should be noted that several weather-related delays occurred during this time period.

This site is ranked $\leq$50 ft per NMAC 19.15.29.12.E. Confirmation sampling was initially scheduled for Tuesday, August 10, 2021 at 8:30 am (MT) in accordance with NMAC 19.15.29.12.D. No representation from NMOCD was present at the time of the scheduled sampling. Three (3) five-point composite samples were collected from the excavation base and sidewalls. However, it was determined that additional excavation was needed at the Base and South/East Wall sample locations. On August 30, 2021, Hilcorp proceeded with a second confirmation sampling event (following submittal of a 48-hour notification; no NMOCD representation was present). The Base and South/East Walls samples came back in compliance with clean up action levels. On September 15, 2021, approximately 80 yd^3 of clean material was brought in from EnviroTech for backfilling the excavation. Refer to sample field notes for additional excavation information.

The Allison Unit 13N_13P is located on private surface under owner, Bryce Sean Washburn.

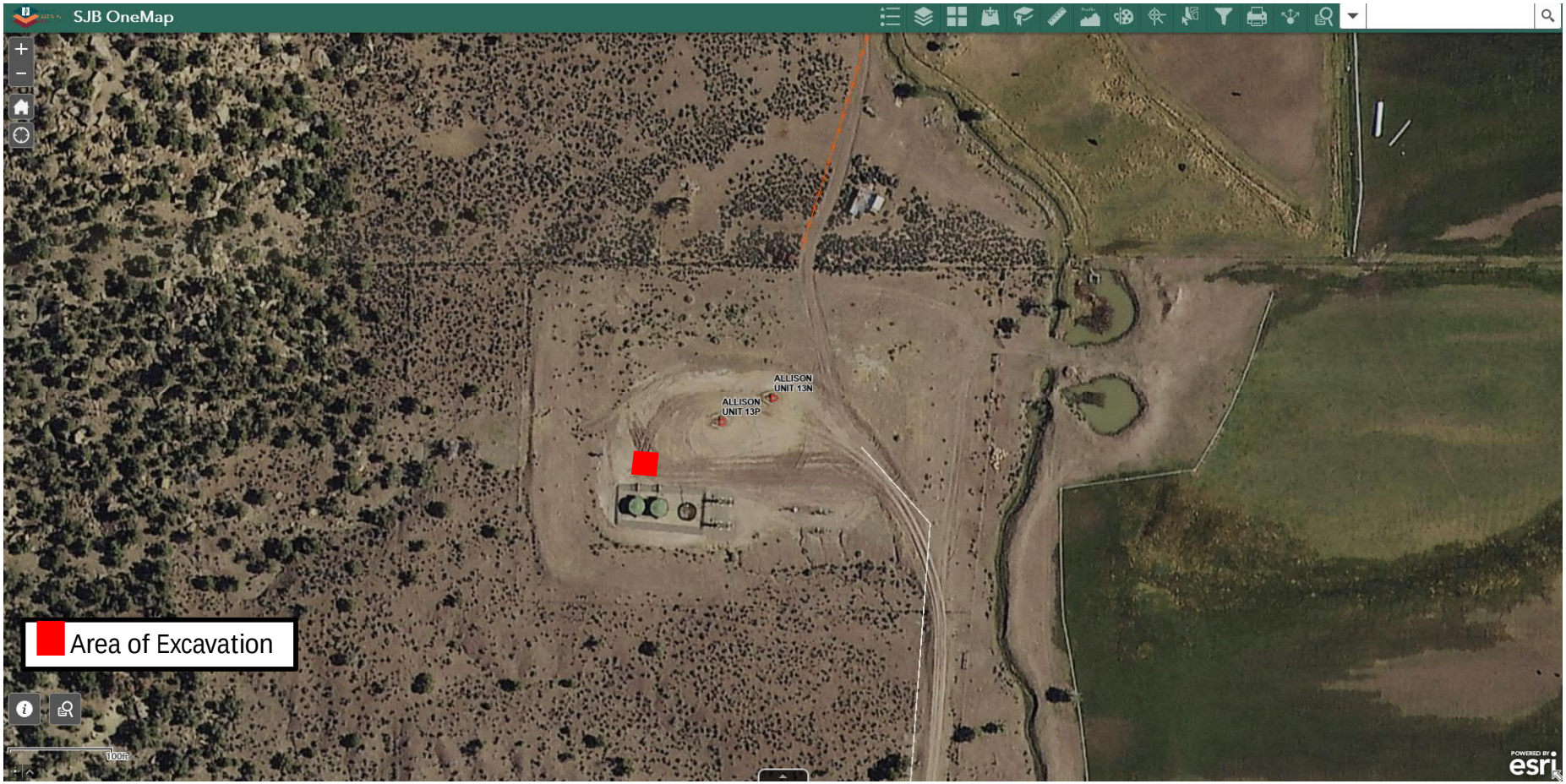
Site Lease Sign – Allison Unit 13P

Site Lease Sign – Allison Unit 13N



Scaled Map

N



Note 1: The surface extent of the Allison Unit 13N_13P release is represented by the red square shown in image above. All released fluids remained within the pad boundary.

Note 2: The Allison Unit Nos. 13N and 13P wells on the same pad location.

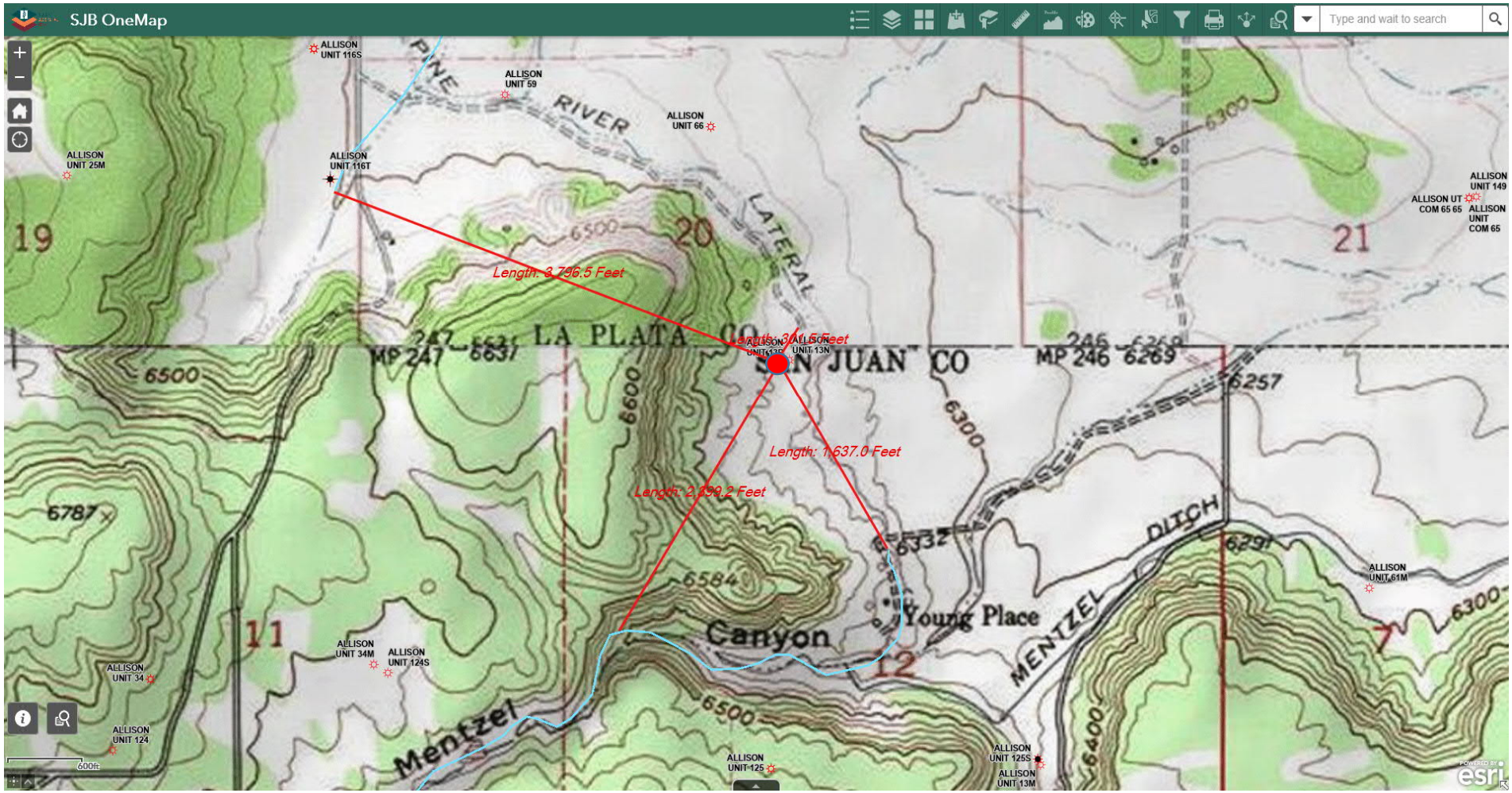
Scaled Map – Close-up

N

Note 1: The final dimensions of the excavation measured 14’ x 14’ x 6’.

Determination of continuously flowing watercourses or any other significant watercourses within ½ mile of the lateral extent of the release

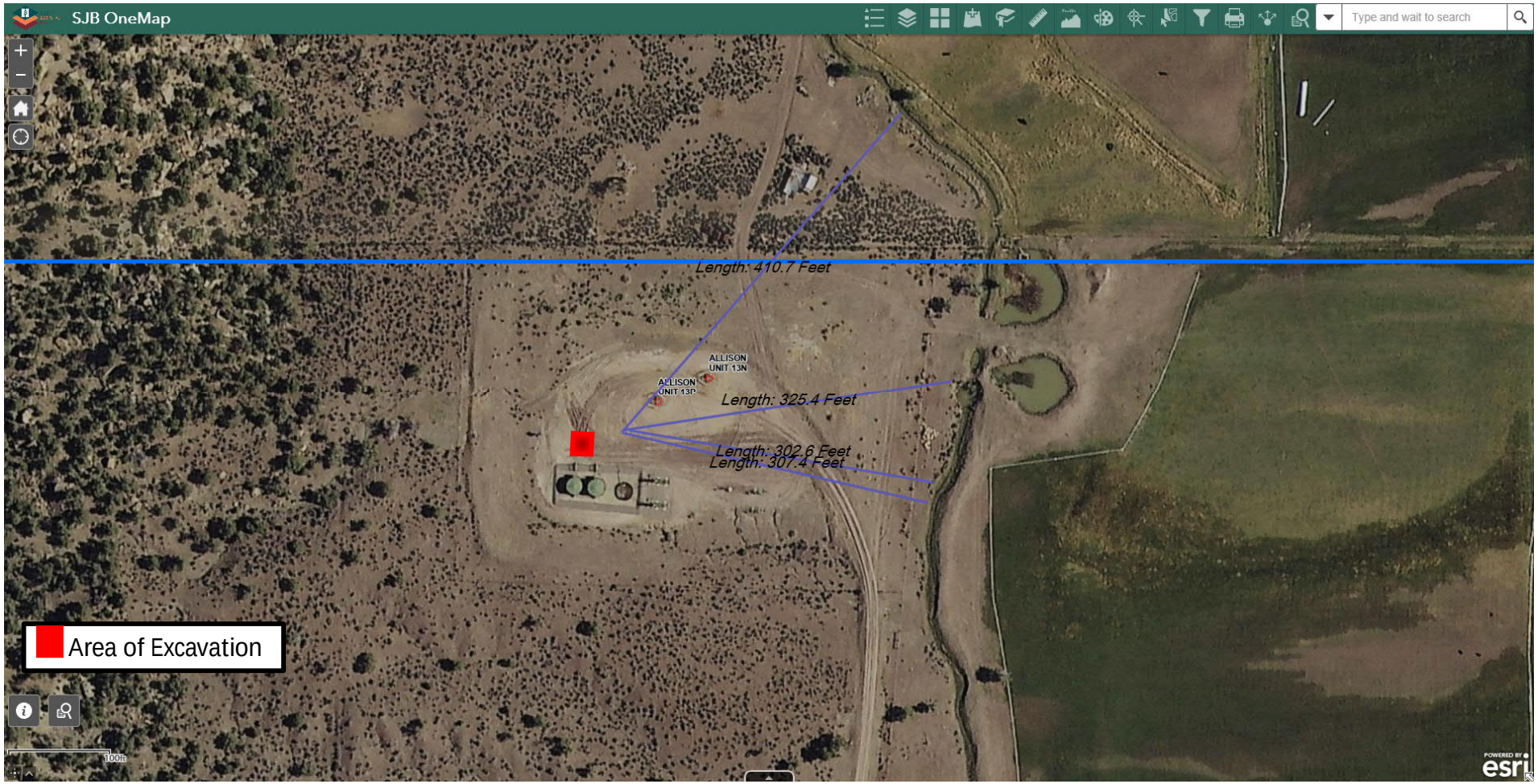
N



Note 1: Lateral extents of the release are not shown to be within 300 ft of any continuously flowing watercourse or any other significant watercourse. However, Hilcorp chose to use the most stringent ranking system for remediating the release due to the source being immediately beyond the 300-ft threshold from actively flowing irrigation canals.

Determination of watercourses and significant watercourses within 300 feet of the lateral extent of the release

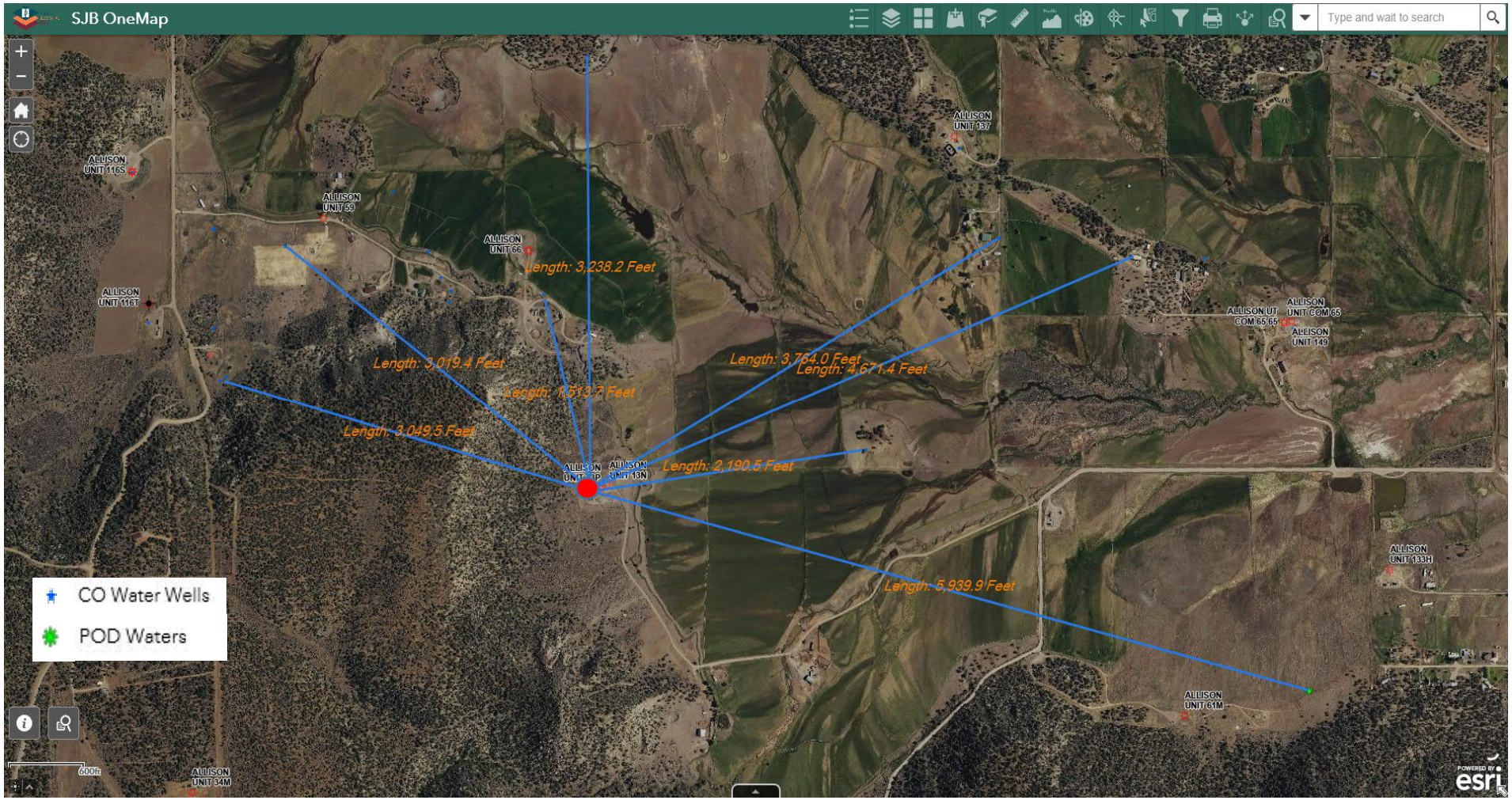
N



Note 1: Close-up view of lateral extent, which is shown to not be within 300 ft of any continuously flowing watercourse or any other significant watercourse. However, Hilcorp chose to use the most stringent ranking system for remediating the release due to the source being immediately beyond the 300-ft threshold from actively flowing irrigation canals.

Distance to mapped water wells

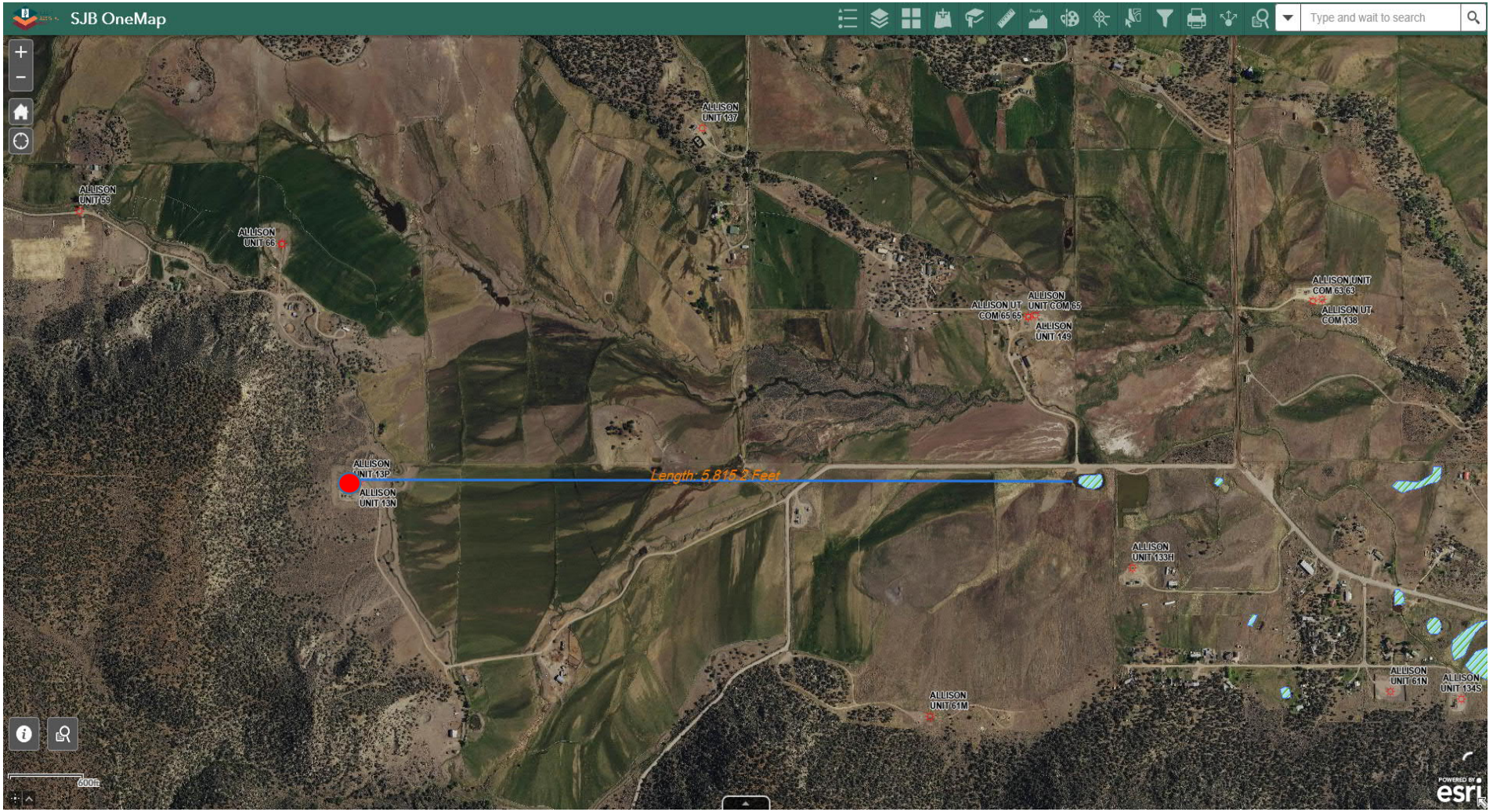
N



Note 1: 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. The figure above shows several water wells near the site. However, the closest water well is located 1,513 feet from the release point. All water wells to the N, NE, and NW are in Colorado.

Distance to mapped wetlands

N



Wetlands

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

Depth to groundwater

Note: Groundwater information taken from the Form C-144 for Below-Grade Tank at the Allison Unit 13N. The estimated groundwater depth is shown to be greater than 100 ft below ground surface.

Source: Page extracted from Form C-144 for the Allison Unit 13N. Found on OCD's website under Allison Unit 13N (30-045-34376) – Associated Images – Well File Search (5/21/2015).

ALLISON WELL 13N

Site Specific Hydrogeology

A visual site inspection confirming the information contained herein was performed on the well 'ALLISON WELL 13N', which is located at 36.999695 degrees North latitude and 107.520403 degrees West longitude. This location is located on the Burnt Mesa 7.5' USGS topographic quadrangle. This location is in section 12 of Township 32 North Range 6 West of the Public Land Survey System (New Mexico Principal Meridian). This location is located in La Plata County, Colorado. The nearest town is Allison, located 2.4 miles to the northeast. The nearest large town (population greater than 10,000) is Durango, located 27.5 miles to the northwest (National Atlas). The nearest highway is State Highway 151, located 2.3 miles to the north. The location is on Private land and is 116 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 1936 meters or 6350 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 136 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 183 feet to the northeast and is classified by the USGS as a canal stream. The nearest perennial stream is 3,994 feet to the southwest. The nearest water body is 1,892 feet to the southeast. It is classified by the USGS as an intermittent lake and is 0.1 acres in size. The nearest spring is 15,192 feet to the west. 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 4,674 feet to the southwest. The nearest wetland is a 0.4 acre Freshwater Pond located 5,643 feet to the east. The slope at this location is 3 degrees to the northeast 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 'Blancot-Notal association, gently sloping' and is well drained and not hydric with moderate erosion potential as taken from the NRCS SSURGO map unit, downloaded January 2008. The nearest underground mine is 15.4 miles to the southeast 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 inter-bedded 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.

Depth to groundwater

Note: Groundwater information taken from the approved Form C-144 for the Allison Unit 13P. The estimated groundwater depth is shown to be greater than 100 ft below ground surface.

Source: Page extracted from Form C-144 for the Allison Unit 13P. Found on OCD's website under Allison Unit 13P (30-045-34352) – Associated Images – Well File Search (11/4/2008).

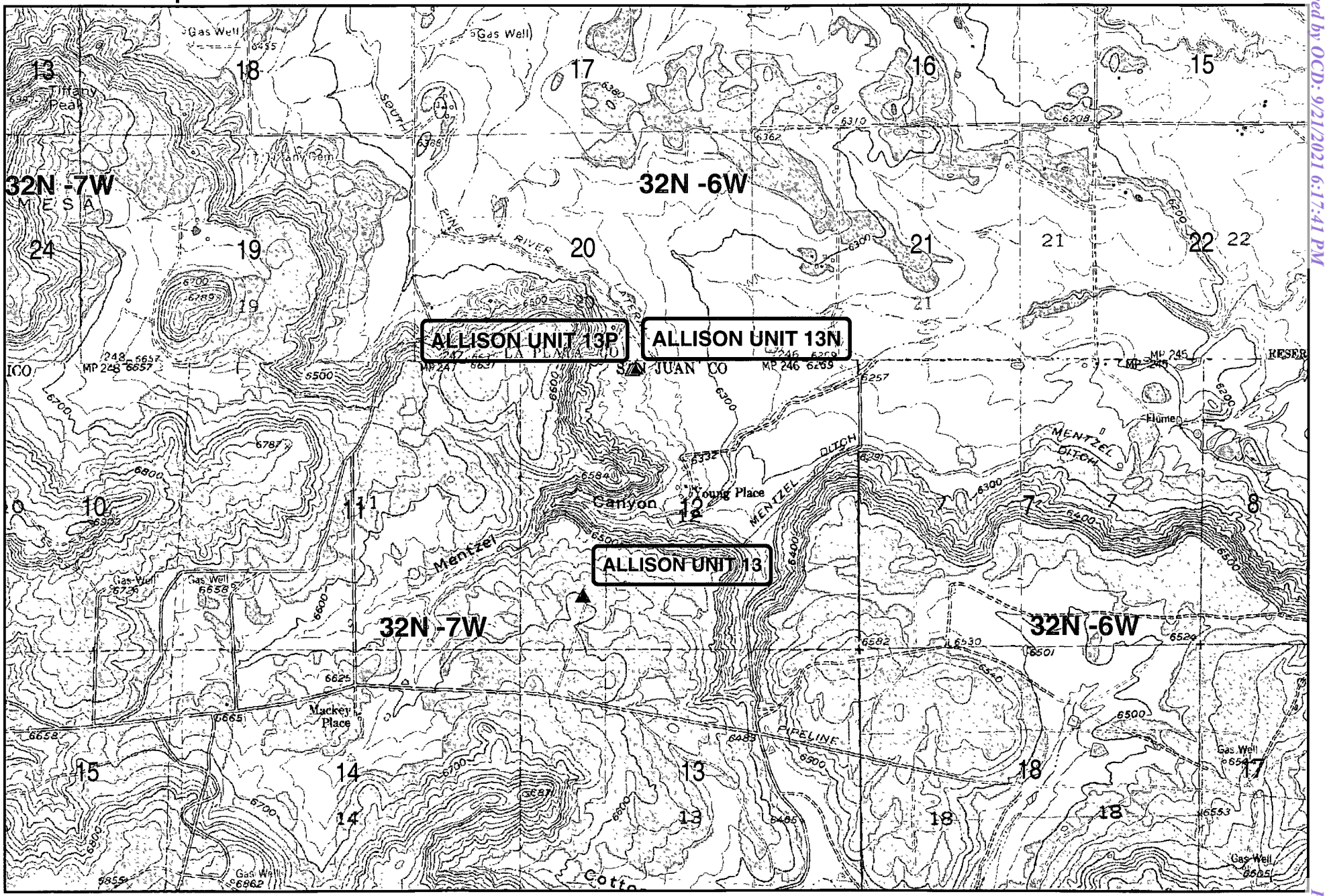
Siting Criteria Compliance Demonstration & Hydro Geologic Analysis

The Allison Unit 13P is not located in an unstable area. The location is not over a mine and is not on the side of a hill as indicated on the Mines, Mills and Quarries Map and Topographic Map. The location of the excavated pit material will not be located within 300' of any continuously flowing watercourse or 200' from any other watercourse as indicated on the Topographic Map. The location is not within a 100-year floodplain area as indicated on the FEMA Map. The groundwater depth is considered to be greater than 100' as determined by the topographic map and the Cathodic well data from the Allison Unit 13 with an elevation of 6590' and groundwater depth of 500'. The subject well has an elevation of 6356' which is less than the Allison Unit 13, therefore the groundwater depth is greater than 100'. There are no iWATERS data points located in the area as indicated on the TOPO Map. The Cathodic data provided the indication of groundwater depth is greater than 100'. The hydro geologic analysis indicates the groundwater depth and the San Jose formation will create a stable area for this new location.

ConocoPhillips

USGS TOPO MAP

Allison Unit 13P



Wetlands data aquired from U.S. Fish and Wildlife
http://wetlandswms.er.usgs.gov

Ground Water
- iWaters
- COP

Buffers
- 200ft
- 500ft
- 300ft
- Wetlands

0 500 1,000 Feet

1:23,316

NAD_1983_StatePlane_NMWest_FIPS_3003

8/08

1349 30-045-11470

DATA SHEET FOR DEEP GROUND BED CATHODIC PROTECTION WELLS
NORTHWESTERN NEW MEXICO
(Submit 3 copies to OCD Aztec Office)

Operator MERIDIAN OIL Location: Unit SW Sec. 12 Twp 32 Rng 7

Name of Well/Wells or Pipeline Serviced ALLISON UNIT #13

cps 1661

Elevation 6590' Completion Date 8/30/83 Total Depth 700' Land Type* N/A

Casing, Sizes, Types & Depths N/A

If Casing is cemented, show amounts & types used N/A

If Cement or Bentonite Plugs have been placed, show depths & amounts used

N/A

Depths & thickness of water zones with description of water when possible:

Fresh, Clear, Salty, Sulphur, Etc. 500' - 520' & 645' - 655' SAMPLE TAKEN

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 680', 665', 650', 635', 600', 585', 570', 555', 530', 515'

Depths vent pipes placed: 700'

Vent pipe perforations: 300'

Remarks: gb #1

RECEIVED
MAY 31 1991.
OIL CON. DIV.
DIST. 3

If any of the above data is unavailable, please indicate so. Copies of all logs, including Drillers Log, Water Analyses & Well Bore Schematics should be submitted when available. Unplugged abandoned wells are to be included.

*Land Type may be shown: F-Federal; I-Indian; S-State; P-Fee.
If Federal or Indian, add Lease Number.

FM-07-0238 (Rev. 10-82)

WELL CASING

CATHODIC PROTECTION CONSTRUCTION REPORT

DAILY LOG

Drilling Log (Attach Hereto) ☒ Completion Date 8/30/83

CPS # 1661W Well Name, Line or Plant: ALLISON #13 Work Order # 53344 Static: .71 Ins. Union Check ☒ Good ☐ Bad

Location	Anode Size	Anode Type	Size Bit
SW12-32-7	2" x 60"	DURIRON	6 3/4

Depth Drilled	Depth Logged	Drilling Rig Time	Total Lbs. Coke Used	Lost Circulation Mat'l Used	No Sacks Mud Used
700'	700'				

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Anode Depth	680	665	650	635	600	585	570	555	530	515
Anode Output (Amps)	1.41	2.05	2.15	199	218	186	153	160	246	247
Anode Depth	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20
Anode Output (Amps)	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20

Total Circuit Resistance			No. 8 C.P. Cable Used	No. 2 C.P. Cable Used
Volts 12.16	Amps 11.00	Ohms 1.10		

Remarks: Drilled to 520'. Set overnight Blow water well AM. Believe water sand 500-520' to estimate 2 gal minute. More water at 645-655'. 300' perforated vent pipe 400' plain.

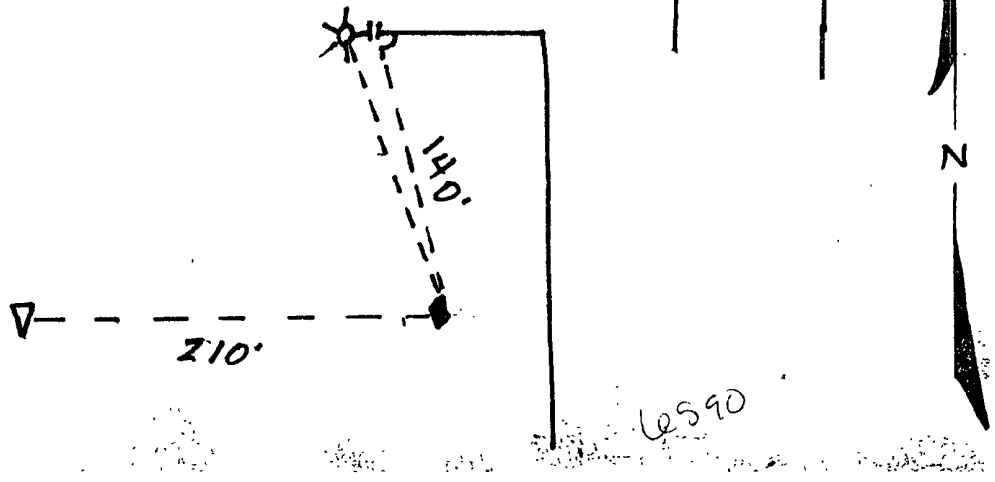
Rectifier Size: 40 V 16 A ✓
Addn'l Depth +200' ✓
Depth Credit:
Extra Cable: 155' ✓
Ditch & 1 Cable: 350' ✓
25' Meter Pole:
20' Meter Pole: X ✓
10' Stub Pole:

All Construction Completed

B.T.
(Signature)

TIME		
DATE	REG	OT
8-30	8	5

GROUND BED LAYOUT SKETCH



Depth to groundwater

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

No records found.

PLSS Search:

Section(s): 12, 11, 14, 13 **Township:** 32N **Range:** 07W

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

9/21/21 4:21 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Note 1: No water well data available for Sections 11, 12, 13, and 14 in NM T32N/R07W.

Depth to groundwater

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	DepthWell	DepthWater	Water Column
SJ 03880 POD1		SJPR	SJ	4	4	1	07	32N	06W	277366	4097301	410	180	230

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

Record Count: 1

PLSS Search:

Section(s): 7, 18 **Township:** 32N **Range:** 06W

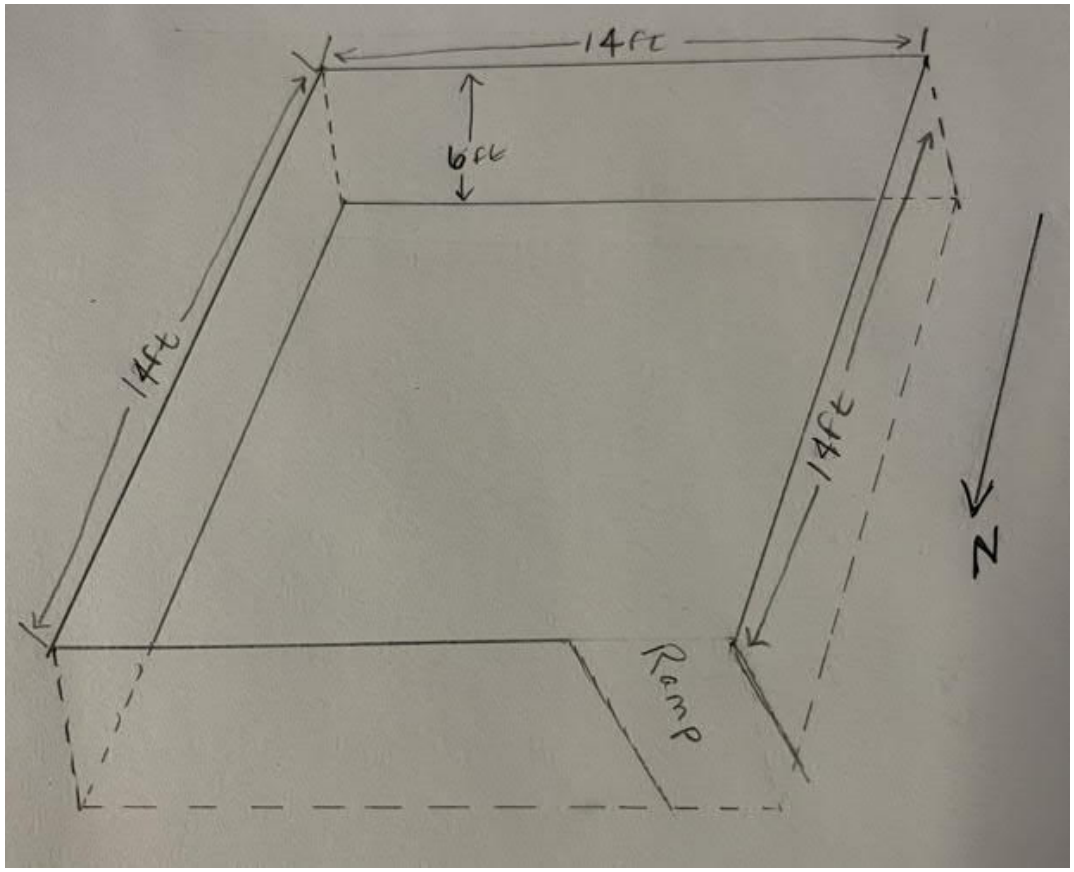
The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

9/21/21 4:30 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Note 1: Water well data available for Sections 7 and 18 in NM T32N/R06W. Depth to water shown to be 180 ft in Section 7.

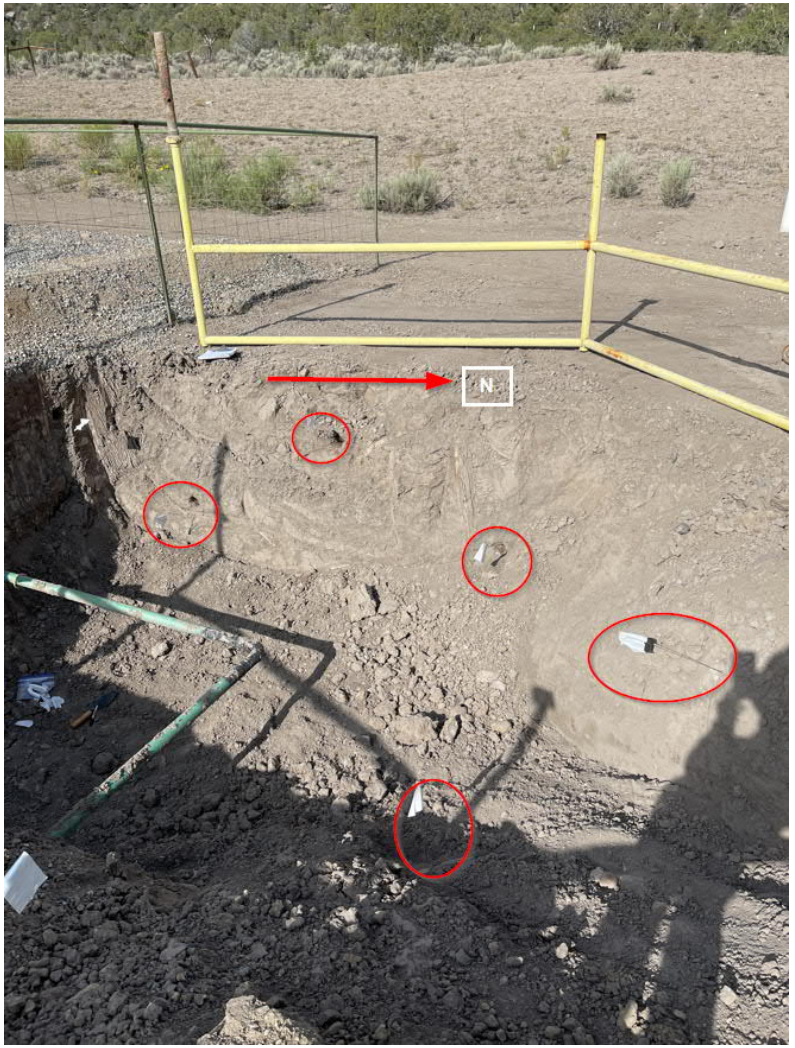
Sample field notes (8/30/2021)



Final Excavation Dimensions

Sample locations

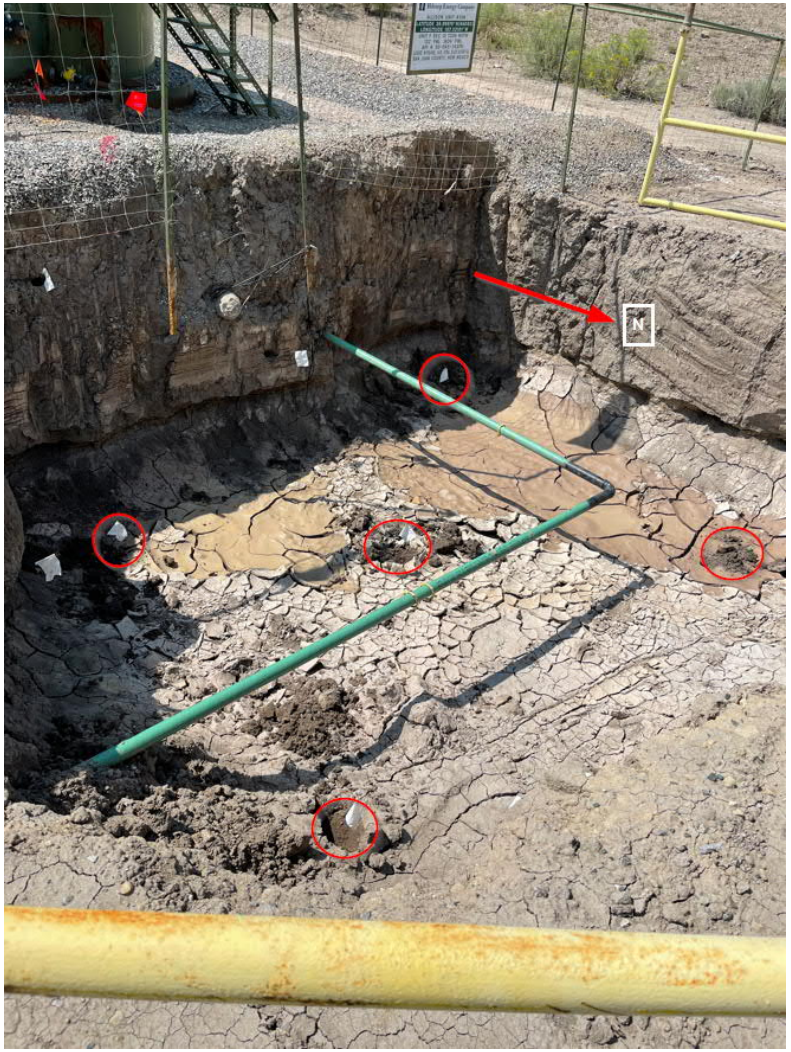
W&N Walls
8/10/2021



Note 1: A single 5-point composite was collected from the West and North sidewalls on 8/10/2021. Sample results indicated that these sidewalls were below clean up action levels after the initial excavation attempt.

Sample locations

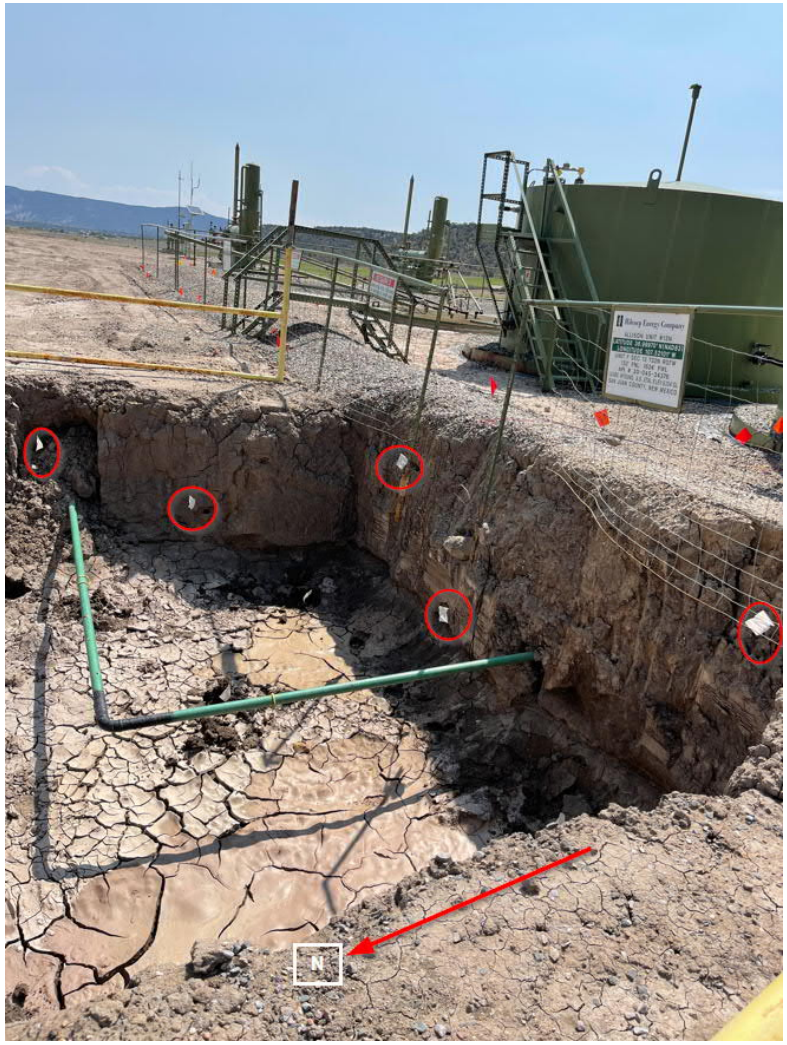
Base
8/30/2021



Note 1: A single 5-point composite was collected from the base of the excavation on 8/30/2021. Laboratory results indicated that this sample was below clean up action levels following additional excavation activities during the week of August 16. It should be noted that several storm events occurred in the area between the initial and follow-up sampling events.

Sample locations

South &
East Walls
8/30/2021



Note 1: A single 5-point composite was re-collected from the south and east sidewalls of the excavation on 8/30/2021. Laboratory results indicated that this sample was below clean up action levels following additional excavation activities during the week of August 16. It should be noted that several storm events occurred in the area between the initial and follow-up sampling events.

Data table of soil contaminant concentration data

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)	GRO+DRO (mg/kg)	TPH (mg/kg)
S & E Walls	8/10/2021	<0.022	<0.045	<0.045	<0.089	<0.201	250	<4.5	450	<49	454.5	<503.5
South & East Walls	8/30/2021	<0.024	<0.048	<0.048	<0.097	<0.217	160	<4.8	<9.9	<50	<14.7	<64.7
W & N Walls	8/10/2021	<0.020	<0.041	<0.041	<0.082	<0.184	260	<4.1	14	<49	<18.1	<67.1
Base	8/10/2021	<0.022	<0.045	<0.045	<0.090	<0.202	640	<4.5	<9.4	<47	<13.9	<60.9
Base	8/30/2021	<0.023	<0.047	<0.047	<0.094	<0.211	67	<4.7	<9.9	<49	<14.6	<63.6
NMOCD Table 1 Closure Criteria		**10**	**NE**	**NE**	**NE**	**50**	**600**	**NE**	**NE**	**NE**	**NE**	**100**

Note 1: Confirmation samples were collected on 8/10/2021 and 8/30/2021 by Hilcorp personnel.

Laboratory Analytical

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

August 17, 2021

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

RE: Allison 13N 13P OrderNo.: 2108512

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 3 sample(s) on 8/11/2021 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2108512**
Date Reported: **8/17/2021**

CLIENT: HILCORP ENERGY
Client Sample ID: S & E Walls
Project: Allison 13N 13P
Collection Date: 8/10/2021 8:51:00 AM
Lab ID: 2108512-001
Matrix: MEOH (SOIL)
Received Date: 8/11/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	250	60		mg/Kg	20	8/12/2021 8:34:24 AM	61930
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	450	9.8		mg/Kg	1	8/12/2021 6:03:14 PM	61913
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/12/2021 6:03:14 PM	61913
Surr: DNOP	106	70-130		%Rec	1	8/12/2021 6:03:14 PM	61913
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	8/12/2021 5:31:26 PM	R80488
Surr: BFB	105	70-130		%Rec	1	8/12/2021 5:31:26 PM	R80488
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.022		mg/Kg	1	8/12/2021 5:31:26 PM	BS8048E
Toluene	ND	0.045		mg/Kg	1	8/12/2021 5:31:26 PM	BS8048E
Ethylbenzene	ND	0.045		mg/Kg	1	8/12/2021 5:31:26 PM	BS8048E
Xylenes, Total	ND	0.089		mg/Kg	1	8/12/2021 5:31:26 PM	BS8048E
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	8/12/2021 5:31:26 PM	BS8048E

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

Qualifiers:

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

Analytical Report
Lab Order **2108512**
Date Reported: **8/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** W & N Walls
Project: Allison 13N 13P **Collection Date:** 8/10/2021 9:06:00 AM
Lab ID: 2108512-002 **Matrix:** MEOH (SOIL) **Received Date:** 8/11/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	260	60		mg/Kg	20	8/12/2021 8:46:45 AM	61930
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	14	9.7		mg/Kg	1	8/12/2021 6:26:48 PM	61913
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/12/2021 6:26:48 PM	61913
Surr: DNOP	104	70-130		%Rec	1	8/12/2021 6:26:48 PM	61913
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	8/12/2021 6:18:46 PM	R80488
Surr: BFB	102	70-130		%Rec	1	8/12/2021 6:18:46 PM	R80488
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	0.020		mg/Kg	1	8/12/2021 6:18:46 PM	BS8048E
Toluene	ND	0.041		mg/Kg	1	8/12/2021 6:18:46 PM	BS8048E
Ethylbenzene	ND	0.041		mg/Kg	1	8/12/2021 6:18:46 PM	BS8048E
Xylenes, Total	ND	0.082		mg/Kg	1	8/12/2021 6:18:46 PM	BS8048E
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/12/2021 6:18:46 PM	BS8048E

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

Qualifiers:

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

Analytical Report
Lab Order **2108512**
Date Reported: **8/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** Base
Project: Allison 13N 13P **Collection Date:** 8/10/2021 9:16:00 AM
Lab ID: 2108512-003 **Matrix:** MEOH (SOIL) **Received Date:** 8/11/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**VP**
Chloride	640	60		mg/Kg	20	8/12/2021 8:59:06 AM	61930
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**SB**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/12/2021 6:50:24 PM	61913
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/12/2021 6:50:24 PM	61913
Surr: DNOP	100	70-130		%Rec	1	8/12/2021 6:50:24 PM	61913
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**RAA**
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	8/12/2021 7:05:59 PM	R80488
Surr: BFB	101	70-130		%Rec	1	8/12/2021 7:05:59 PM	R80488
EPA METHOD 8021B: VOLATILES						Analyst:	**RAA**
Benzene	ND	0.022		mg/Kg	1	8/12/2021 7:05:59 PM	BS8048E
Toluene	ND	0.045		mg/Kg	1	8/12/2021 7:05:59 PM	BS8048E
Ethylbenzene	ND	0.045		mg/Kg	1	8/12/2021 7:05:59 PM	BS8048E
Xylenes, Total	ND	0.090		mg/Kg	1	8/12/2021 7:05:59 PM	BS8048E
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/12/2021 7:05:59 PM	BS8048E

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108512**
17-Aug-21

Client: HILCORP ENERGY
Project: Allison 13N 13P

Sample ID: **MB-61930** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **61930** RunNo: **80485**
Prep Date: **8/12/2021** Analysis Date: **8/12/2021** SeqNo: **2837791** Units: **mg/Kg**

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

Sample ID: **LCS-61930** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **61930** RunNo: **80485**
Prep Date: **8/12/2021** Analysis Date: **8/12/2021** SeqNo: **2837792** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.2	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108512**
17-Aug-21

Client: HILCORP ENERGY
Project: Allison 13N 13P

Sample ID: **MB-61913**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **61913**	RunNo: **80484**
Prep Date: **8/11/2021**	Analysis Date: **8/12/2021**	SeqNo: **2837574** 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	10		10.00		104	70	130			

Sample ID: **LCS-61913**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **61913**	RunNo: **80484**
Prep Date: **8/11/2021**	Analysis Date: **8/12/2021**	SeqNo: **2837575** 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	99.0	68.9	141			
Surr: DNOP	5.4		5.000		107	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108512**
17-Aug-21

Client: HILCORP ENERGY
Project: Allison 13N 13P

Sample ID: **2.5ug gro lcs** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **R80488** RunNo: **80488**
Prep Date: Analysis Date: **8/12/2021** SeqNo: **2837348** 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	78.6	131			
Surr: BFB	1200		1000		119	70	130			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **R80488** RunNo: **80488**
Prep Date: Analysis Date: **8/12/2021** SeqNo: **2837352** 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	1200		1000		118	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108512**
17-Aug-21

Client: HILCORP ENERGY
Project: Allison 13N 13P

Sample ID: **100ng btex lcs** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **BS80488** RunNo: **80488**
Prep Date: Analysis Date: **8/12/2021** SeqNo: **2837356** 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	96.0	80	120			
Toluene	0.96	0.050	1.000	0	96.3	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.7	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.6	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	70	130			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **BS80488** RunNo: **80488**
Prep Date: Analysis Date: **8/12/2021** SeqNo: **2837360** 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	1.2		1.000		118	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **2108512** RcptNo: 1

Received By: **Desiree Dominguez** **8/11/2021 8:00:00 AM** DD

Completed By: **Isaiah Ortiz** **8/11/2021 8:30:25 AM** I-O

Reviewed By: JR 8/11/21

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 8/11/21

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	2.2	Good	Not Present			

Chain-of-Custody Record

Client: Hilcorp Energy

Mailing Address: 382 CR 3100
Aztec NM 87410

Phone #: 505 5993400

email or Fax#: MKillough@hilcorp.com

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

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

Turn-Around Time: 8/13/21
☐ Standard ☒ Rush 2 day

Project Name: Allison 13N 13P

Project #:

Project Manager: Mitch Killough

Sampler: C Cardoza

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.1+0.1=2.2 (°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. 2108517	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)	300.0 Chloride
8/10/21	851	Soil	S&E Walls	4oz Glass / 1	—	001	X	X									X
8/10/21	9:06	Soil	W&N Walls	4oz Glass / 1	—	002	X	X									X
8/10/21	9:16	Soil	Base	4oz Glass / 1	—	003	X	X									X

Remarks:

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
8/10/21	1452		Christa Waet		8/10/21	1452
8/10/21	1817	Christa Waet		Courier	8/11/21	8:00

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: clients.hallenvironmental.com

September 07, 2021

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

RE: Allison Lenit 13 N P OrderNo.: 2108H01

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 2 sample(s) on 8/31/2021 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2108H01**
Date Reported: **9/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Base
Project: Allison Lenit 13 N P
Collection Date: 8/30/2021 11:29:00 AM
Lab ID: 2108H01-001 **Matrix:** SOIL
Received Date: 8/31/2021 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**VP**
Chloride	67	60		mg/Kg	20	9/1/2021 6:48:07 PM	62330
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**SB**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/1/2021 2:38:10 PM	62311
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/1/2021 2:38:10 PM	62311
Surr: DNOP	129	70-130		%Rec	1	9/1/2021 2:38:10 PM	62311
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**mb**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/1/2021 7:44:00 PM	62310
Surr: BFB	90.6	70-130		%Rec	1	9/1/2021 7:44:00 PM	62310
EPA METHOD 8021B: VOLATILES						Analyst:	**mb**
Benzene	ND	0.023		mg/Kg	1	9/1/2021 7:44:00 PM	62310
Toluene	ND	0.047		mg/Kg	1	9/1/2021 7:44:00 PM	62310
Ethylbenzene	ND	0.047		mg/Kg	1	9/1/2021 7:44:00 PM	62310
Xylenes, Total	ND	0.094		mg/Kg	1	9/1/2021 7:44:00 PM	62310
Surr: 4-Bromofluorobenzene	79.4	70-130		%Rec	1	9/1/2021 7:44:00 PM	62310

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

Qualifiers:

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

Analytical Report
Lab Order **2108H01**
Date Reported: **9/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: South & East Walls
Project: Allison Lenit 13 N P
Collection Date: 8/30/2021 11:45:00 AM
Lab ID: 2108H01-002 **Matrix:** SOIL
Received Date: 8/31/2021 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**VP**
Chloride	160	60		mg/Kg	20	9/2/2021 10:35:47 AM	62353
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**SB**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/1/2021 2:48:02 PM	62311
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/1/2021 2:48:02 PM	62311
Surr: DNOP	132	70-130	S	%Rec	1	9/1/2021 2:48:02 PM	62311
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**mb**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/1/2021 8:44:00 PM	62310
Surr: BFB	88.8	70-130		%Rec	1	9/1/2021 8:44:00 PM	62310
EPA METHOD 8021B: VOLATILES						Analyst:	**mb**
Benzene	ND	0.024		mg/Kg	1	9/1/2021 8:44:00 PM	62310
Toluene	ND	0.048		mg/Kg	1	9/1/2021 8:44:00 PM	62310
Ethylbenzene	ND	0.048		mg/Kg	1	9/1/2021 8:44:00 PM	62310
Xylenes, Total	ND	0.097		mg/Kg	1	9/1/2021 8:44:00 PM	62310
Surr: 4-Bromofluorobenzene	79.5	70-130		%Rec	1	9/1/2021 8:44:00 PM	62310

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2108H01**

07-Sep-21

Client: HILCORP ENERGY

Project: Allison Lenit 13 N P

Sample ID: **2108G91-004AMS** SampType: **MS** TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC** Batch ID: **62330** RunNo: **80950**
Prep Date: **9/1/2021** Analysis Date: **9/1/2021** SeqNo: **2857890** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	33	7.5	15.00	18.04	97.8	36.7	168			

Sample ID: **2108G91-004AMSD** SampType: **MSD** TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC** Batch ID: **62330** RunNo: **80950**
Prep Date: **9/1/2021** Analysis Date: **9/1/2021** SeqNo: **2857891** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	29	7.5	15.00	18.04	74.5	36.7	168	11.3	20	

Sample ID: **2108G92-001AMS** SampType: **MS** TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC** Batch ID: **62330** RunNo: **80950**
Prep Date: **9/1/2021** Analysis Date: **9/1/2021** SeqNo: **2857895** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	17	7.5	15.00	0	112	36.7	168			

Sample ID: **2108G92-001AMSD** SampType: **MSD** TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC** Batch ID: **62330** RunNo: **80950**
Prep Date: **9/1/2021** Analysis Date: **9/1/2021** SeqNo: **2857896** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	17	7.5	15.00	0	110	36.7	168	1.40	20	

Sample ID: **MB-62353** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **62353** RunNo: **80991**
Prep Date: **9/2/2021** Analysis Date: **9/2/2021** SeqNo: **2859459** Units: **mg/Kg**

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

Sample ID: **LCS-62353** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **62353** RunNo: **80991**
Prep Date: **9/2/2021** Analysis Date: **9/2/2021** SeqNo: **2859460** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.2	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108H01**
07-Sep-21

Client: HILCORP ENERGY
Project: Allison Lenit 13 N P

Sample ID: **LCS-62311** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **62311** RunNo: **80959**
Prep Date: **8/31/2021** Analysis Date: **9/1/2021** SeqNo: **2857492** 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	105	68.9	135			
Surr: DNOP	5.6		5.000		113	70	130			

Sample ID: **MB-62311** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **62311** RunNo: **80959**
Prep Date: **8/31/2021** Analysis Date: **9/1/2021** SeqNo: **2857494** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		123	70	130			

Sample ID: **2108G28-015AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BatchQC** Batch ID: **62311** RunNo: **80959**
Prep Date: **8/31/2021** Analysis Date: **9/1/2021** SeqNo: **2857557** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	9.6	48.03	0	83.0	39.3	155	8.65	23.4	
Surr: DNOP	3.4		4.803		70.2	70	130	0	0	

Sample ID: **2108G28-015AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BatchQC** Batch ID: **62311** RunNo: **81001**
Prep Date: **8/31/2021** Analysis Date: **9/2/2021** SeqNo: **2859148** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	36	9.8	49.07	0	72.4	39.3	155			
Surr: DNOP	3.5		4.907		70.4	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108H01**
07-Sep-21

Client: HILCORP ENERGY
Project: Allison Lenit 13 N P

Sample ID: **mb-62288**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **62288**	RunNo: **80979**							
Prep Date: **8/30/2021**	Analysis Date: **9/1/2021**	SeqNo: **2858051**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	870		1000		87.1	70	130			

Sample ID: **mb-62310**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **62310**	RunNo: **80979**							
Prep Date: **8/31/2021**	Analysis Date: **9/1/2021**	SeqNo: **2858052**	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	890		1000		88.8	70	130			

Sample ID: **lcs-62288**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **62288**	RunNo: **80979**							
Prep Date: **8/30/2021**	Analysis Date: **9/1/2021**	SeqNo: **2858053**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		102	70	130			

Sample ID: **lcs-62310**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **62310**	RunNo: **80979**							
Prep Date: **8/31/2021**	Analysis Date: **9/1/2021**	SeqNo: **2858054**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	102	78.6	131			
Surr: BFB	1000		1000		102	70	130			

Sample ID: **2108G28-015ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BatchQC**	Batch ID: **62288**	RunNo: **80979**							
Prep Date: **8/30/2021**	Analysis Date: **9/1/2021**	SeqNo: **2858055**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		972.8		107	70	130			

Sample ID: **2108H01-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **Base**	Batch ID: **62310**	RunNo: **80979**							
Prep Date: **8/31/2021**	Analysis Date: **9/1/2021**	SeqNo: **2858056**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.6	23.02	0	114	61.3	114			S
Surr: BFB	970		920.8		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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108H01**
07-Sep-21

Client: HILCORP ENERGY
Project: Allison Lenit 13 N P

Sample ID: **2108G28-015amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BatchQC** Batch ID: **62288** RunNo: **80979**
Prep Date: **8/30/2021** Analysis Date: **9/1/2021** SeqNo: **2858057** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		977.5		102	70	130	0	0	

Sample ID: **2108H01-001amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **Base** Batch ID: **62310** RunNo: **80979**
Prep Date: **8/31/2021** Analysis Date: **9/1/2021** SeqNo: **2858058** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.8	23.79	0	105	61.3	114	5.00	20	
Surr: BFB	990		951.5		104	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2108H01**

07-Sep-21

Client: HILCORP ENERGY

Project: Allison Lenit 13 N P

Sample ID: **mb-62288**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**						
Client ID: **PBS**	Batch ID: **62288**	RunNo: **80979**						
Prep Date: **8/30/2021**	Analysis Date: **9/1/2021**	SeqNo: **2858091**	Units: **%Rec**					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.79		1.000		78.6	70	130			

Sample ID: **mb-62310**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**						
Client ID: **PBS**	Batch ID: **62310**	RunNo: **80979**						
Prep Date: **8/31/2021**	Analysis Date: **9/1/2021**	SeqNo: **2858092**	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	0.80		1.000		79.7	70	130			

Sample ID: **lcs-62288**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**						
Client ID: **LCSS**	Batch ID: **62288**	RunNo: **80979**						
Prep Date: **8/30/2021**	Analysis Date: **9/1/2021**	SeqNo: **2858093**	Units: **%Rec**					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.82		1.000		81.7	70	130			

Sample ID: **lcs-62310**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**						
Client ID: **LCSS**	Batch ID: **62310**	RunNo: **80979**						
Prep Date: **8/31/2021**	Analysis Date: **9/1/2021**	SeqNo: **2858094**	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	91.2	80	120			
Toluene	0.93	0.050	1.000	0	93.1	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.9	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.8	80	120			
Surr: 4-Bromofluorobenzene	0.79		1.000		79.4	70	130			

Sample ID: **2108G28-016ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**						
Client ID: **BatchQC**	Batch ID: **62288**	RunNo: **80979**						
Prep Date: **8/30/2021**	Analysis Date: **9/1/2021**	SeqNo: **2858095**	Units: **%Rec**					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.79		0.9823		80.8	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108H01**
07-Sep-21

Client: HILCORP ENERGY
Project: Allison Lenit 13 N P

Sample ID: **2108H01-002ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **South & East Walls** Batch ID: **62310** RunNo: **80979**
Prep Date: **8/31/2021** Analysis Date: **9/1/2021** SeqNo: **2858096** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	0.9970	0	99.7	80	120			
Toluene	1.0	0.050	0.9970	0	103	80	120			
Ethylbenzene	1.1	0.050	0.9970	0	105	80	120			
Xylenes, Total	3.2	0.10	2.991	0	106	80	120			
Surr: 4-Bromofluorobenzene	0.83		0.9970		82.9	70	130			

Sample ID: **2108G28-016amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC** Batch ID: **62288** RunNo: **80979**
Prep Date: **8/30/2021** Analysis Date: **9/1/2021** SeqNo: **2858097** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.76		0.9346		81.1	70	130	0	0	

Sample ID: **2108H01-002amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **South & East Walls** Batch ID: **62310** RunNo: **80979**
Prep Date: **8/31/2021** Analysis Date: **9/1/2021** SeqNo: **2858098** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.024	0.9653	0	97.9	80	120	5.05	20	
Toluene	0.98	0.048	0.9653	0	101	80	120	4.74	20	
Ethylbenzene	1.0	0.048	0.9653	0	104	80	120	4.20	20	
Xylenes, Total	3.0	0.097	2.896	0	105	80	120	4.09	20	
Surr: 4-Bromofluorobenzene	0.79		0.9653		82.3	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
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: **2108H01** RcptNo: **1**

Received By: **Cheyenne Cason** **8/31/2021 7:10:00 AM**

Completed By: **Sean Livingston** **8/31/2021 8:16:33 AM**

Reviewed By: JR 8/31/21

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 8/31/21

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	4.9	Good				
2	1.4	Good				

Chain-of-Custody Record

Client: Hilcorp Energy

Mailing Address: 382 CR 3100
Aztec NM 87410

Phone #: 505.599.3400

email or Fax#: mkillough@hilcorp.com

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

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

Turn-Around Time:
☐ Standard ☒ Rush 3 Day

Project Name: Allison Unit 13N/P

Project #:

Project Manager: Mitch Killough

Sampler: C Cardenas

On Ice: ☒ Yes ☐ No

# of Coolers: 2 4.8 + 0.1 = 4.9

Cooler Temp(including CF): 1.3 + 0.1 = 1.4 (°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. 2108H01	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)	Chlorides 300.0
8/30/21	11:29	Soil	Base	Glass/1	—	001	X	X									X
8/30/21	1145	Soil	South + East Walls	Glass/1	—	002	X	X									X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8/30/21	1450		Chant Wade		8/30/21	1450
8/30/21	1749	Chant Wade	Emc carr		8/31/21	0710

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.

Agency Correspondence

Mitch Killough

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Monday, August 30, 2021 10:23 AM
To: Clara Cardoza; Mitch Killough; Enviro, OCD, EMNRD
Cc: Cameron Garrett; Shad Brown
Subject: RE: [EXTERNAL] RE: Closure Soil Sampling - Allison 13N_13P (Incident No. nAPP2118959759)

Clara,

Thank you for the update, Please sample per 19.15.29 NMAC.

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
Albuquerque Office
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Clara Cardoza <ccardoza@hilcorp.com>
Sent: Monday, August 30, 2021 9:19 AM
To: Mitch Killough <mkillough@hilcorp.com>; Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Cameron Garrett <cgarrett@hilcorp.com>; Shad Brown <shbrown@hilcorp.com>
Subject: RE: [EXTERNAL] RE: Closure Soil Sampling - Allison 13N_13P (Incident No. nAPP2118959759)

Cory, per our discussion, we will be moving up the sampling time of this event to this morning. Please let us know if you have any questions or concerns.

Thank you,
Clara

From: Mitch Killough <mkillough@hilcorp.com>
Sent: Thursday, August 26, 2021 2:10 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Cameron Garrett <cgarrett@hilcorp.com>; Shad Brown <shbrown@hilcorp.com>; Clara Cardoza <ccardoza@hilcorp.com>
Subject: RE: [EXTERNAL] RE: Closure Soil Sampling - Allison 13N_13P (Incident No. nAPP2118959759)

Afternoon Cory.

Hilcorp Energy Company (Hilcorp) is providing a 48-hour notification for closure soil sampling scheduled to occur at the Allison 13N_13P on Monday, August 30, 2021, beginning at 2:00 pm (MT). The initial C-141 was submitted to the NMOCD on 7/8/2021 and was assigned incident no. nAPP2118959759. The location is on private surface.

As discussed in the email below, we attempted the closure samples on 8/23/2021, but rainfall from the prior weekend disrupted our plans. We removed the stormwater earlier this week and the excavation is now ready for sample collection.

Please let me know if you have any questions.

Thanks.

Mitch Killough
Hilcorp Energy Company
713-757-5247 (Office)
281-851-2338 (Mobile)

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Monday, August 23, 2021 5:10 PM
To: Mitch Killough <mkillough@hilcorp.com>; Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Cameron Garrett <cgarrett@hilcorp.com>; Shad Brown <shbrown@hilcorp.com>; Chad Perkins <cperkins@hilcorp.com>
Subject: RE: [EXTERNAL] RE: Closure Soil Sampling - Allison 13N_13P (Incident No. nAPP2118959759)

Mitch,

Thank you for the notice, please make sure the water is disposed of properly.

Cory Smith
Environmental Specialist
Oil Conservation Division
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Albuquerque Office
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Mitch Killough <mkillough@hilcorp.com>
Sent: Monday, August 23, 2021 10:15 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Cameron Garrett <cgarrett@hilcorp.com>; Shad Brown <shbrown@hilcorp.com>; Chad Perkins <cperkins@hilcorp.com>
Subject: RE: [EXTERNAL] RE: Closure Soil Sampling - Allison 13N_13P (Incident No. nAPP2118959759)

Morning Cory.

Hilcorp was prepared to collect the closure samples today at 9 am MT, but a rainstorm came through over the weekend. About six inches of water is sitting in the bottom of the excavation. Refer to pic below.

We are going to pull the rain water and re-submit a closure sample notice for later this week.

Thanks.

Mitch Killough
Hilcorp Energy Company
713-757-5247 (Office)
281-851-2338 (Mobile)

From: Mitch Killough
Sent: Thursday, August 19, 2021 8:53 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Cameron Garrett <cgarrett@hilcorp.com>; Shad Brown <shbrown@hilcorp.com>; Chad Perkins <cperkins@hilcorp.com>
Subject: RE: [EXTERNAL] RE: Closure Soil Sampling - Allison 13N_13P (Incident No. nAPP2118959759)

Hi Cory.

Hilcorp Energy Company (Hilcorp) is providing a 48-hour notification for closure soil sampling scheduled to occur at the Allison 13N_13P on Monday, August 23, 2021, beginning at 9:00 am (MT). The initial C-141 was submitted to the NMOCD on 7/8/2021 and was assigned incident no. nAPP2118959759. The location is on private surface.

We attempted the closure samples on 8/10/2021, but determined that additional excavation was needed. Excavation activities were completed earlier this week.

Please let me know if you have any questions.

Thanks.

Mitch Killough
Hilcorp Energy Company
713-757-5247 (Office)

281-851-2338 (Mobile)

From: Mitch Killough
Sent: Thursday, August 5, 2021 7:30 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Clara Cardoza <ccardoza@hilcorp.com>; Cameron Garrett <cgarrett@hilcorp.com>; Shad Brown <shbrown@hilcorp.com>
Subject: RE: [EXTERNAL] RE: Closure Soil Sampling - Allison 13N_13P (Incident No. nAPP2118959759)

Understood. Thanks for the guidance Cory.

Mitch Killough
Hilcorp Energy Company
713-757-5247 (Office)
281-851-2338 (Mobile)

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Wednesday, August 4, 2021 5:30 PM
To: Mitch Killough <mkillough@hilcorp.com>; Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Clara Cardoza <ccardoza@hilcorp.com>; Cameron Garrett <cgarrett@hilcorp.com>; Shad Brown <shbrown@hilcorp.com>
Subject: RE: [EXTERNAL] RE: Closure Soil Sampling - Allison 13N_13P (Incident No. nAPP2118959759)

Mitch,

Thanks for the quick reply. Please note that without any data the BGT hydrology report will not be accepted in your Final C-141. The BGT hydrology reports are useful to get a gauge the area but, without a iwaters/cathodic well log etc the information is not acceptable for part 29 ground water determination.

Cory Smith • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1000 Rio Brazos | Aztec, NM 87410
505.334.6178 x115 | Cory.Smith@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Mitch Killough <mkillough@hilcorp.com>
Sent: Wednesday, August 4, 2021 3:24 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Clara Cardoza <ccardoza@hilcorp.com>; Cameron Garrett <cgarrett@hilcorp.com>; Shad Brown <shbrown@hilcorp.com>
Subject: RE: [EXTERNAL] RE: Closure Soil Sampling - Allison 13N_13P (Incident No. nAPP2118959759)

No problem Cory. Operations confirmed that no shallow groundwater was observed while excavating. The total depth of the excavation is 3.5 – 4.0 ft bgs. Operations also pointed out that the location is slightly elevated above the ag field/ditch to the east and northeast of the well site. In addition, I looked at the BGT permit application for the Allison Unit 13N (found on OCD's Well File Search; dated 12/22/2008) and site specific hydrogeology for the location shows groundwater to have an estimated depth of 136 ft at that site. We will take photographs during the sample collection to document site conditions though.

Hilcorp intends to collect 5-point composites every 200 sq ft.

Let us know if you need anything else.

ALLISON WELL 13N

Site Specific Hydrogeology

A visual site inspection confirming the information contained herein was performed on the well 'ALLISON WELL 13N', which is located at 36.999695 degrees North latitude and 107.520403 degrees West longitude. This location is located on the Burnt Mesa 7.5' USGS topographic quadrangle. This location is in section 12 of Township 32 North Range 6 West of the Public Land Survey System (New Mexico Principal Meridian). This location is located in La Plata County, Colorado. The nearest town is Allison, located 2.4 miles to the northeast. The nearest large town (population greater than 10,000) is Durango, located 27.5 miles to the northwest (National Atlas). The nearest highway is State Highway 151, located 2.3 miles to the north. The location is on Private land and is 116 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 1936 meters or 6350 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 136 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 183 feet to the northeast and is classified by the USGS as a canal stream. The nearest perennial stream is 3,994 feet to the southwest. The nearest water body is 1,892 feet to the southeast. It is classified by the USGS as an intermittent lake and is 0.1 acres in size. The nearest spring is 15,192 feet to the west. 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 4,674 feet to the southwest. The nearest wetland is a 0.4 acre Freshwater Pond located 5,643 feet to the east. The slope at this location is 3 degrees to the northeast 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 'Blancot-Notal association, gently sloping' and is well drained and not hydric with moderate erosion potential as taken from the NRCS SSURGO map unit, downloaded January 2008. The nearest underground mine is 15.4 miles to the southeast as indicated on the Mines, Mills and Quarries Map of New Mexico provided.

Mitch Killough
Hilcorp Energy Company
713-757-5247 (Office)
281-851-2338 (Mobile)

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Wednesday, August 4, 2021 2:53 PM
To: Mitch Killough <mkillough@hilcorp.com>; Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Clara Cardoza <ccardoza@hilcorp.com>; Cameron Garrett <cgarrett@hilcorp.com>; Shad Brown <shbrown@hilcorp.com>
Subject: [EXTERNAL] RE: Closure Soil Sampling - Allison 13N_13P (Incident No. nAPP2118959759)

Mitch,

Thanks for the update, was there any shallow ground water discovered during the excavation? Looking at the site its right next to agriculture irrigation ditches.

Is HEC planning on sampling every 200sqft?

Cory Smith • Environmental Specialist
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EMNRD - Oil Conservation Division
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http://www.emnrd.state.nm.us/OCD/

From: Mitch Killough <mkillough@hilcorp.com>
Sent: Wednesday, August 4, 2021 11:57 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Clara Cardoza <ccardoza@hilcorp.com>; Cameron Garrett <cgarrett@hilcorp.com>; Shad Brown <shbrown@hilcorp.com>
Subject: Closure Soil Sampling - Allison 13N_13P (Incident No. nAPP2118959759)

Hi Cory.

Hilcorp Energy Company (Hilcorp) is providing a 48-hour notification for closure soil sampling scheduled to occur at the Allison 13N_13P on Tuesday, August 10, 2021, beginning at 8:30 am (MT). The initial C-141 was submitted to the NMOCD on 7/8/2021 and was assigned incident no. nAPP2118959759. The location is on private surface.

Please let me know if you have any questions.

Thanks.

Mitch Killough
Environmental Specialist
Hilcorp Energy Company
1111 Travis Street
Houston, TX 77002
713-757-5247 (office)
281-851-2338 (cell)
mkillough@hilcorp.com

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opening, or use of this message and any attachments will not adversely affect its systems or data. No responsibility is accepted by the company in this regard and the recipient should carry out such virus and other checks as it considers appropriate.

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

CONDITIONS

Action 50917

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 50917
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

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