Site Characterization-Delineation Report

Double L Queen Tank Battery

Incident # NAPM2303746352
Unit P, Section 36, T14S, R29E
Chaves County, New Mexico
February 16, 2023

Ashley Maxwell
Environmental Specialist
EMNRD-NMOCD
1000 Rio Brazos Road
Aztec, NM 87110
Phone: (505) 635-5000
E-mail: ashley.maxwell@emnrd.nm.gov

envirotech

Practical Solutions for a Better Tomorrow
Arizona • Colorado • New Mexico • Texas • Utah

Table of Contents

New Mexico Oil Conservation Division
Double L Queen Tank Battery
Site Characterization-Delineation Report
Incident # NAPM2303746352
Unit P, Section 36, T14S, R29E
Chaves County, New Mexico

Page Left Intentionally Blank

Location

The subject site is identified as the Double L Queen Tank Battery and is located within Unit P, Section 26, Township 14 South, Range 29 East, Chaves County, New Mexico. The site location is further described as being located at latitude 33.05539, and longitude -103.975098; see **Figure 1, Vicinity Map**.

Background

The subject site is an abandoned facility formerly operated by Canyon E&P. New Mexico Oil Conservation Division (NMOCD) took control over the site under the Orphan Well Program, and has contracted Envirotech, Inc. to complete a facility inventory, site characterization, and spill delineation.

Prior to field activities Envirotech reviewed historical images available on Google Earth to gain an understanding of the site history; see **Figure 2, Site Map** and **Appendix A, Historical Aerials**. The findings are summarized below:

- A 2019 aerial photograph from Google Earth illustrates a large release, subject of this delineation report, from the tank battery located on the northwest quadrant of the facility.
- The 2014 aerial photograph illustrates a release within the berm of the central tank battery of the facility.
- The 1997 aerial photograph illustrates a pit on the north central portion of the facility, and a possible release from the separator extending through the gate and along the spill path of the 2019 release.

Surface and Ground Water

Based on information provided by the United States Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey, the predominant soil at the site is Tencee-Sotim association. The parent material is calcareous alluvium and/or eolian deposits derived from sedimentary rock. Depth to a restrictive, petrocalcic feature is reported to be 7 to 20 inches. The location is not within an area of high karst occurrence.

Depth to water records in proximity to the subject site were searched extensively for reasonably ascertainable data. The nearest water well with data from 1994 is located over 2 miles from the subject site. Depth to water ranged from 50 to 55 feet from 1986 to 1994 in USGS 3302211040031. Furthermore, windmills with a stock pond are located southeast, approximately 1,083 feet, from the facility; **see Figure 2, Site Map**. The windmills are estimated to be 15 feet in height, indicating relatively shallow depths to groundwater.

The site is located within a watershed basin with several playa lakes in the vicinity. Based on the available information, it is believed that depth to water at the subject site is less than 50 feet

deep. Siting criteria documentation for the subject spill site is provided in **Appendix B, Siting Documentation.**

Regulatory Standards

The delineation activities were confined to the upper 4 feet. Therefore, based on the determination that depth to ground water is less than 50 feet, the closure criteria for the site are based on the following reclamation standards provided in *19.15.29.13 NMAC*:

Constituent	Method	Limit
Chloride	EPA 300.0	600 mg/kg
Total Petroleum Hydrocarbons (TPH)	EPA Method 8015D	100 mg/kg
Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX)	EPA Method 8021B	50 mg/kg
Benzene	EPA Method 8021B	10 mg/kg

Facility Assessment

The assessment, inventory, and delineation activities for the facility footprint were conducted from January 24 through 26, 2023. The field work included:

- Equipment inventory with liquid levels.
- Field screening for naturally occurring radioactive materials (NORM) and assessment for equipment containing polychlorinated biphenyls (PCBs).
- Assessment for asbestos and lead paint containing materials (ACM, LBP).
- Subsurface investigation of high probability areas.

General Site Conditions

The facility is located near the intersection of Aberdeen Road (Highway 249) and Katrina Road (County Road 161). The designated access road to the facility measures approximately 20 feet wide and 425 feet long. Upon arrival on January 24, 2023, the facility gate was open and did not have a lock accessible. Two (2) tank batteries and a building are the main structures on the facility. The perimeter is bound by a chain link fence. One (1) light pole is located at each tank battery, and no transformers or power poles were observed within the facility boundary. Evidence of a former restroom, assumed to be connected to a septic system, was observed in the building. General site conditions are illustrated in Appendix C, Site Photography.

Equipment debris including pipes, damaged fiberglass tanks, a metal vessel, and office furniture were observed along the perimeter of the yard and inside the building. Surface lines were observed from: tank battery #1 to the containment berm; from the separator to tank battery #2;

and from the building to the southern fence line where it becomes an underground line. Surface lines were also observed from tank battery #2 to the building. One the north side of the facility, outside the fence, a DCP Midstream pipeline was flagged and trended northeast.

Equipment Inventory

Tank battery #1 is set within the northwest quadrant of the facility and contains two (2) above ground storage tanks (AST), identified as Tank 1 and Tank 2 for this report. The tank battery containment also contained the heater-treater and separator. Tank battery #2 is centrally located and contains five (5) ASTs, Tanks 3 through 7. The following summarizes findings for the tanks:

Tank 1: 16 feet tall with 1.3 feet of tank bottoms/sludge.
Tank 2: 500-barrel (bbl) tank with 0.3 feet of tank bottoms/sludge.
Tank 3: 380 bbl tank with 0.4 feet of tank bottoms/sludge. Tank shows evidence of expansion on the top and base.
Tank 4: 380 bbl tank with no access (thief hatch was unable to be opened).
Tank 5: 380 bbl tank with 1.2 feet of tank bottoms/sludge.
Tank 6: 380 bbl tank with 1.8 feet of tank bottoms/sludge.
Tank 7: 380 bbl tank with no access (no catwalk).

All tanks, except for #4 and #7, had atmospheres measured utilizing a calibrated four-gas meter. All atmospheres measured 0 parts per million (ppm) for hydrogen sulfide, carbon monoxide, and methane. Oxygen level was reported as 20.9% for all the tanks assessed. Significant surface staining was observed in both tank batteries and evidence of overflow was observed from the tanks in battery #2; see **Appendix C**.

NORM and PCBs

The above ground storage tanks that were accessible and the heater-treater were screened for NORM utilizing a Geiger Counter. All readings were below two (2) times the background concentration; see enclosed Field Report*: NORM Testing Verification* provided in **Appendix D, Field Notes**.

No transformers or other oil-filled equipment suspected of containing PCBs was observed within the facility boundary.

ACM and LBP

Under the purview of a New Mexico certified asbestos inspector, asbestos awareness trained personnel collected nine (9) samples of suspect materials from the building and oil field equipment within the facility fence.

The samples were placed into Ziploc® style bags, sealed, labeled with sample identification, date, time of collection, name of sampler, site name, and analytical method to be used. The samples were shipped under strict chain of custody to ECM Labs, Inc. to be analyzed for ACM using PLM via EPA Method 100/R-93/116. As per the attached analytical results, all samples reported no detectable asbestos fibers.

Additionally, two (2) samples of paint chips were collected from separate surfaces within the facility building and submitted for lead paint analysis. Samples were shipped under strict chain of custody to EMC Labs, Inc located in Phoenix, Arizona. The samples were analyzed for using EPA Method 7420. Both samples reported lead below the laboratory reportable limits.

ACM and LBP results are summarized in **Table 1, Summary of Building Material Analytical Results** and **Appendix E, Laboratory Analytical Reports**.

Subsurface Investigation

Based on direction from NMOCD and historical aerial photographs soil borings were advanced in areas likely to contain petroleum hydrocarbon contamination. Borings were advanced using a skid steer equipped with a rock auger. Sandy loam was encountered from the surface to 3 feet bgs, at which a cemented gravel layer was encountered. This cemented layer was approximately 0.75 feet thick across the site. Where borings were advanced beyond 4 feet, a tight clay was encountered at 5 feet bgs. Based on this lithology and the heavy petroleum organics observed on the surface, subsurface contamination is anticipated to be contained mostly in the upper 2 to 6 feet.

Soil samples were field screened at the following depths in each boring: 1, 2, and 4 feet, except for soil borings SB-4, 5, and 12. These borings were extended to access contamination below the reclamation closure depth of 4 feet. Soil boring locations are provided in **Figure 3, Facility Delineation Map**.

Field Screening

Soil samples were initially field screened for volatile organic compounds (VOCs) using a photo-ionization detector (PID) equipped with an organic vapor meter (OVM). However, it was determined that the subsurface contaminants were not volatile, and VOCs could not be used as a screening tool to guide the delineation activities. Therefore, field screening for TPH and chloride was conducted for the investigation.

Soil samples were screened in the field for TPH per United States Environmental Protection Agency (EPA) Method 418.1 using an Infracal Total Oil and Grease (TOG)/TPH Analyzer. A three-point calibration was completed prior to conducting soil screening. Field screening protocol followed the manufacture's operating procedures. Samples were also field screened for chlorides using a Hach Chloride Test Kit. Field screening results are provided in **Appendix D** and are summarized in **Table 2, Summary of Soil Field Screening Results**.

Laboratory Correlation

Five (5) samples were collected for laboratory analysis. The results were used to provide a correlation for field screening data and will be used to prepare a formula for potential in-situ treatment and/or soil shredding.

All soil samples collected for laboratory analysis, were placed into an individual laboratory provided 4-ounce jar, capped head space free, and transported on ice to Hall Environmental Analytical Laboratory (HEAL) under strict chain of custody. The laboratory results are summarized with the field screening results on **Table 1**, and are provided in **Appendix E, Laboratory Analytical Reports.**

Spill Delineation

The subject of the spill delineation is the release documented in the 2019 aerial photograph. Since the release extended from the footprint of the facility that is on New Mexico state land, prior to conducting earth disturbing activities a cultural resource clearance was required to be conducted. Representatives for the Stand Land Office conducted a survey on January 26, 2023; see Arch Survey Map in **Appendix D**.

Once the area has been cleared for disturbance, on January 31 through February 1, 2023, Envirotech personal conducted the delineation of the spill that migrated off site. Soil samples were field screened at the following depths in each boring: 1, 2, and 4 feet, or until field screening results were below applicable closure criteria. Field screening was conducted in accordance with the same protocol followed for the facility investigation. Soil boring locations are provided in **Figure 4, Spill Delineation Map**. Field screening results are summarized in **Table 2** and **Appendix D**.

Per NMOCD request, a sample was collected from the stock pond and analyzed for TPH and BTEX. All analytical results reported concentrations of contaminants of concern below laboratory detection limits.

Facility Assessment Conclusions

Based on historical aerial photographs, site observations, and field screening results the following areas will likely need to undergo remediation actions to remove petroleum hydrocarbons and chloride contamination:

1. Approximately 26,652 square feet within the facility fencing is contaminated. Average depth of contamination is 2 to 3 feet bgs, with localized areas extending to 4 to 5 feet bgs. With an average depth of 3 feet, the estimated volume of impacted soil, including a 1.2 “soil fluff” factor, is 3,553 cubic yards. Note, these measurements do not include the pit located on the north central portion of the property (1997 aerial).

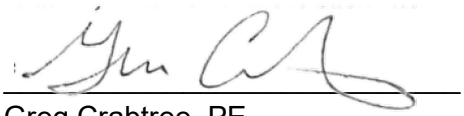
2. The spill path and bare area outside of fence encompass approximately 26,300 square feet. The average depth of contamination along the spill path is 2 feet bgs, with localized areas extending to 4 feet. Based on these measurements approximately 2,500 cubic yards can be anticipated to undergo remediation actions.
3. Facility demolition debris is estimated to include seven (7) tanks, 165 to 200 cubic yards of building debris, three (3) vessels, and miscellaneous metal and fiberglass debris (pipes, windblown metal etc).

Statement of Limitations

The work and services provided were in accordance with NMOCD standards. All observations and conclusions provided here are based on the information and current site conditions found at the subject site. This work has been conducted and reported in accordance with generally accepted professional practices in geology, engineering, environmental chemistry, and hydrogeology.

We appreciate the opportunity to be of service. If you have any questions or require additional information, please contact our office at (505) 632-0615.

Respectfully submitted,
Envirotech, Inc.



Greg Crabtree, PE
Environmental Manager
gcrabtree@envirotech-inc.com

Figures

Figure 1, Vicinity Map
Figure 2, Site Map
Figure 3, Facility Delineation Map
Figure 4, Spill Delineation Map

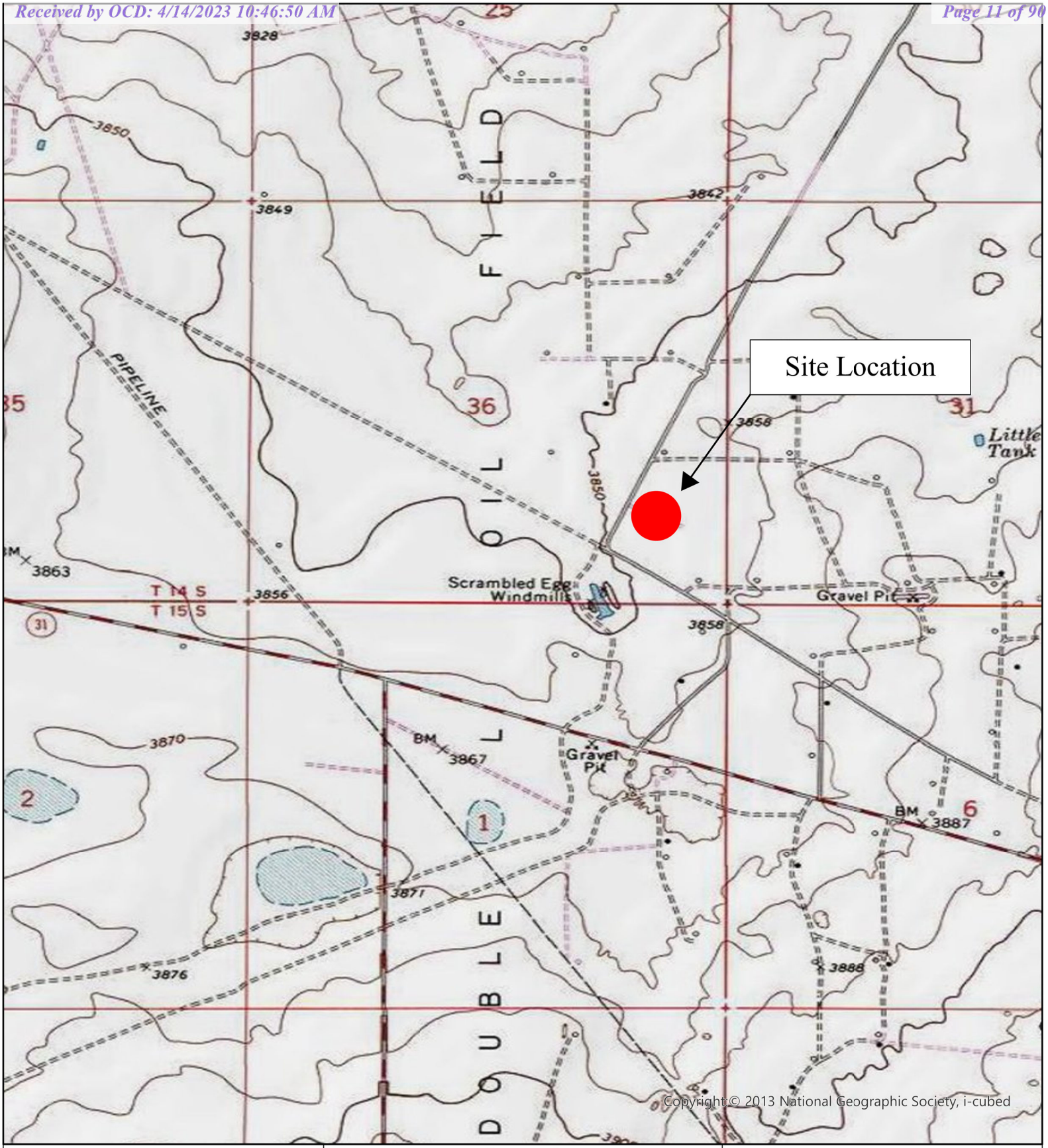


Figure 1, Vicinity Map

NM OCD
Double L Queen Tank Battery
SEC 36 TWN 14S RNG 29E
Chaves County, New Mexico
33.05539, -103.97509
Project #23002-0001

Legend

N
W E
S

1:20,000

0 0.13 0.25 0.5 Miles

envirotech
Environmental Scientists and Engineers
5796 U.S Highway 64
Farmington, New Mexico 87401
505.632.0615
Date Drawn: 02/01/2023
Drawn by: P. Mesa

Figure 2, Site Map

NM OCD
Double L Queen Tank Battery
Sec 36 Twn 14S Rng 29E
Chaves County, New Mexico
33.05539, -103.975098
Project #23002-0001

Legend

1:4,000

100 0 100 200 300 ft

envirotech
Environmental Scientists and Engineers
5796 U.S. Highway 64
Farmington, New Mexico 87401
505.632.0615
Date Drawn: 02/01/2023
Drawn by: P. Mesa

Figure # 3, Facility Delineation Map

NM OCD
Double L Queen
Sec 36 Twn 14s Rng 29E
Chaves County, New Mexico
33.05539, -103.975098
Project #23002-0001

Legend

- Soil Boring
- Assumed Water Line
- Assumed Crude Oil Line
- Inferred Remediation Area

0 22 44 88 132 Feet

N

envirotech

Environmental Scientists and Engineers
5796 U.S Highway 64
Farmington, New Mexico 87401
505.632.0615
Date Drawn: 02/22/2023
Drawn by: D. Aragon

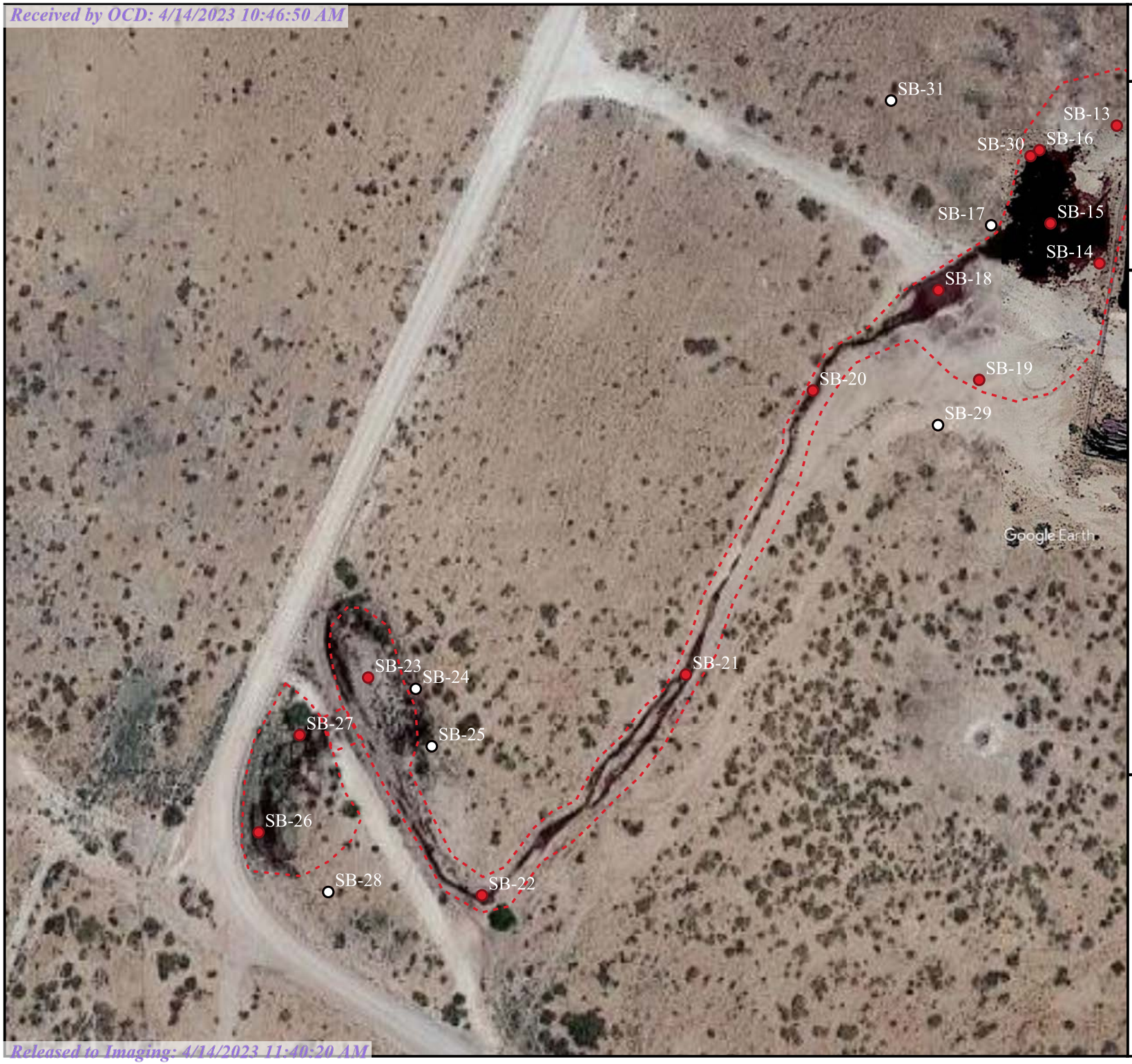


Figure 4, Spill Delineation Map

NM OCD
Double L Queen Tank Battery
Sec 36 Twn 14S Rng 29E
Chaves County, New Mexico
33.05539, -103.975098
Project #23002-0001

Legend

- Soil Boring Below Standars
- Soil Boring Over Standards
- Inferred Remediation Area

1:1,300
50 0 50 100 150 ft

envirotech
Environmental Scientists and Engineers
5796 U.S. Highway 64
Farmington, New Mexico 87401
505.632.0615
Date Drawn: 02/13/2023
Drawn by: P. Mesa

Tables

Table 1, Summary of Building Material Analytical Results
Table 2, Summary of Soil Field Screening Results

Table 1, Summary of Building Material Analytical Results
Site Characterization/Delineation
Double L Queen Tank Battery
Unit P, Section 36, Township 14S, Range 29E
Chavez County, New Mexico
Project #23002-0001

Date	Sample Name	Sample Description	ACM %	ACM Type	Lead %
1/24/2023	1	Floor Tile	ND	-	-
	2	Ceiling Tile	ND	-	-
	3	Storage Room Block	ND	-	-
	4	Office Paint	NA	NA	<0.013
	5	Hall Paint	NA	NA	<0.010
	6	Insulation	ND	-	-
	7	Window Caulking	ND	-	-
	8	Tank Valve Insulation	ND	-	-
	9	Tank Manway Gasket	ND	-	-
	10	Separator North Gasket	ND	-	-
	11	Separator South Gasket	ND	-	-

ND - None Detected

Table 2, Summary of Soil Field Screening Results
Site Characterization/Delineation
Double L Queen Tank Battery
Unit P, Section 36, Township 14S, Range 29E
Chavez County, New Mexico
Project #23002-0001

Date	Sample Name	Latitude, Longitude	Sample Description	TPH (mg/kg)	VOC (ppm)	Chlorides (mg/kg)
			NMOCD Reclamation Closure Criteria (Table 1 - 19.15.29.13 NMAC)	100 mg/kg	Not Established	600 mg/kg
1/24/2023	SB1@1ft	33.055518, -103.975302	SW Crn Battery 1	**1,636**	NA	NA
	SB1@2ft**			**3,564/5,000**	0.6/<0.216	181/200
	SB1@4ft			60	NA	**1,350**
	SB2@1ft**	33.055649, -103.975302	NW Crn Battery 1	**3,064/1,405**	1.7/<0.216	NA/<60
	SB2@2ft			**996**	NA	426
	SB2@4ft			**156**	NA	472
	SB3@1ft	33.055608, -103.975179	North of Tank 2	**888**	NA	83
	SB3@2ft			**184**	NA	83
	SB3@4ft			28	NA	**904**
	SB4@1ft	33.055522, -103.975146	North of Heater Treater Battery 1	**6,264**	NA	**3,231**
	SB4@2ft			**1,048**	NA	**2,963**
	SB4@4ft			**268**	NA	**2,726**
1/25/2023	SB4@6ft			220	NA	1,836
	SB4@8ft			360	NA	1,575
1/24/2023	SB5@1ft	33.055509, -103.975223	West of Separator Battery 1	**1,612**	NA	**>6,148**
	SB5@2ft			**1,060**	NA	**2,726**
	SB5@4ft			**304**	NA	**3,534**
1/25/2023	SB5@6ft			156	NA	1,575
1/24/2023	SB6@1ft	33.056482, -103.975226	South of Battery 1 Outside Containment	**360**	NA	**1,458**
	SB6@2ft			**416**	NA	**1,458**
1/25/2023	SB6@4ft			76	NA	**1,836**
1/24/2023	SB7@1ft**	33.055537, -103.975043	East of Heater Treater Outside Containment	**6,708/6,400**	0.6/0.054	**>6,148/3,900**
	SB7@2ft			**4,380**	NA	**>6,148**
1/25/2023	SB7@4ft			**140**	NA	**3,883**
1/24/2023	SB8@1ft	33.055704, -103.975143	North of Battery 1 Outside of Containment	**620**	NA	NA
	SB8@2ft			**176**	NA	NA
1/25/2023	SB8@4ft			16	NA	**1,836**
1/25/2023	SB9@1ft	33.065554, -103.974800	North of Battery 2 Outside of Containment	**1,388**	NA	**982**
	SB9@2ft			**1,184**	NA	**2,319**
	SB9@4ft			4	NA	**1,984**
	SB10@1ft	33.055441, -103.974929	West of Battery 2 Outside of Containment	**1,604**	NA	**3,883**
	SB10@2ft			**1,952**	NA	**>6148**
	SB10@4ft			**476**	NA	**>6148**
	SB11@1ft	33.055359, -103.974907	South of Battery 2 Outside of Containment	**204**	NA	**1,984**
	SB11@2ft			**108**	NA	**1,458**
	SB11@4ft			0	NA	**2,144**
	SB12@1ft**	33.055455, -103.974874	Inside Containment of Battery 2 Btwn Tank 5 and 7	**>5,596/10,146**	NA/<0.445	**2,726/6,400**
	SB12@2ft			**2,000**	NA	**3,883**
	SB12@4ft			**576**	NA	**2,319**
	SB12@6ft			132	NA	1,836
1/31/2023	SB13@1ft	33.055838, -103.975378	Up-Gradien of Release	**588**	NA	426
	SB13@2ft			64	NA	**762**
	SB13@4ft			28	NA	**1,700**
	SB14@1ft	33.055576, -103.975446	East Delineation Point of Source	64	NA	**698**
	SB14@2ft			8	NA	**1,836**
	SB14@4ft			16	NA	**3,234**
	SB15@1ft	33.055684, -103.975490	Center of Source	**1,700**	NA	**636**
	SB15@2ft			**256**	NA	**1,068**
	SB15@4ft			92	NA	**1,575**
	SB16@1ft	33.055792, -103.975551	West Delineation Point of Source	**5,224**	NA	294
	SB16@2ft			**>6,232**	NA	**831**
	SB16@4ft			64	NA	**1,575**
	SB17@1ft	33.055651, -103.975659	Delineation Point at Road	72	NA	<32
	SB17@2ft			NA	NA	64
	SB17@4ft			NA	NA	189

Table 2, Summary of Soil Field Screening Results
Site Characterization/Delineation
Double L Queen Tank Battery
Unit P, Section 36, Township 14S, Range 29E
Chavez County, New Mexico
Project #23002-0001

Date	Sample Name	Latitude, Longitude	Sample Description	TPH (mg/kg)	VOC (ppm)	Chlorides (mg/kg)
			NMOCD Reclamation Closure Criteria (Table 1 - 19.15.29.13 NMAC)	100 mg/kg	Not Established	600 mg/kg
	SB18@1ft	33.055513, -103.975834	Delineation Point In Spill Path South of Road	**544**	NA	61
	SB18@2ft			**236**	NA	**1,575**
	SB18@4ft			8	NA	**1,836**
	SB19@1ft	33.055394, -103.975797	Bare Area Outside Fence	**2,480**	NA	**1,458**
	SB19@2ft			**3,336**	NA	**1,575**
	SB19@4ft			**3,584**	NA	**1,154**
	SB20@1ft	33.055341, -103.976058	Narrow Spill Path Delineation Point	**5,172**	NA	<32
	SB20@2ft			**392**	NA	45
	SB20@4ft			**668**	NA	474
	SB21@1ft	33.054847, -103.976363	Narrow Spill Path Delineation Point	88	NA	160
	SB21@2ft			NA	NA	**1,068**
	SB21@4ft			NA	NA	**894**
2/1/2023	SB22@1ft	33.054380, -103.976830	Southern Extent at Spill Dog Leg	16	NA	590
	SB22@2ft			20	NA	**928**
	SB22@4ft			NA	NA	220
	SB23@1ft	33.054731, -103.977065	Center of Ponding North of Cut Across	28	NA	<32
	SB23@2ft			8	NA	38
	SB23@4ft			NA	NA	274
	SB24@1ft	33.054808, -103.976955	North Cut Across Delineation Point	8	NA	<32
	SB24@2ft			4	NA	32
	SB24@4ft			NA	NA	32
	SB25@1ft	33.054597, -103.976951	North Cut Across Delineation Point	4	NA	79
	SB25@2ft			16	NA	64
	SB25@4ft			NA	NA	53
	SB26@1ft	33.054522, -103.977267	Center of Ponding at Road Intersection	**836**	NA	45
	SB26@2ft			**952**	NA	<32
	SB26@4ft			**344**	NA	<32
	SB27@1ft	33.054682, -103.977265	Southern Delienation Point	68	NA	<32
	SB27@2ft			16	NA	<32
	SB27@4ft			NA	NA	89
	SB28@1ft	33.054492, -103.977150	Southern Delienation Point	4	NA	<32
	SB28@2ft			NA	NA	45
	SB28@4ft			NA	NA	160
	SB29@1ft	33.055350, -103.975761	Bare Area Outside Fence Delineation Point	4	NA	<32
	SB29@2ft			NA	NA	<32
	SB29@4ft			NA	NA	<32
	SB30@1ft	33.055800, -103.975588	Northern Delineation Point	44	NA	<32
	SB30@2ft			NA	NA	255
	SB30@4ft			NA	NA	**2,914**
	SB31@1ft	33.055885, -103.975883	Background	24	NA	<32
	SB31@2ft			NA	NA	<32
	SB31@4ft			NA	NA	337
1/25/2023	Surface @ Fenceline	33.05588, -103.975384	Sample Collected for In Situ Remediation Formulation	**11,800**	<0.212	92

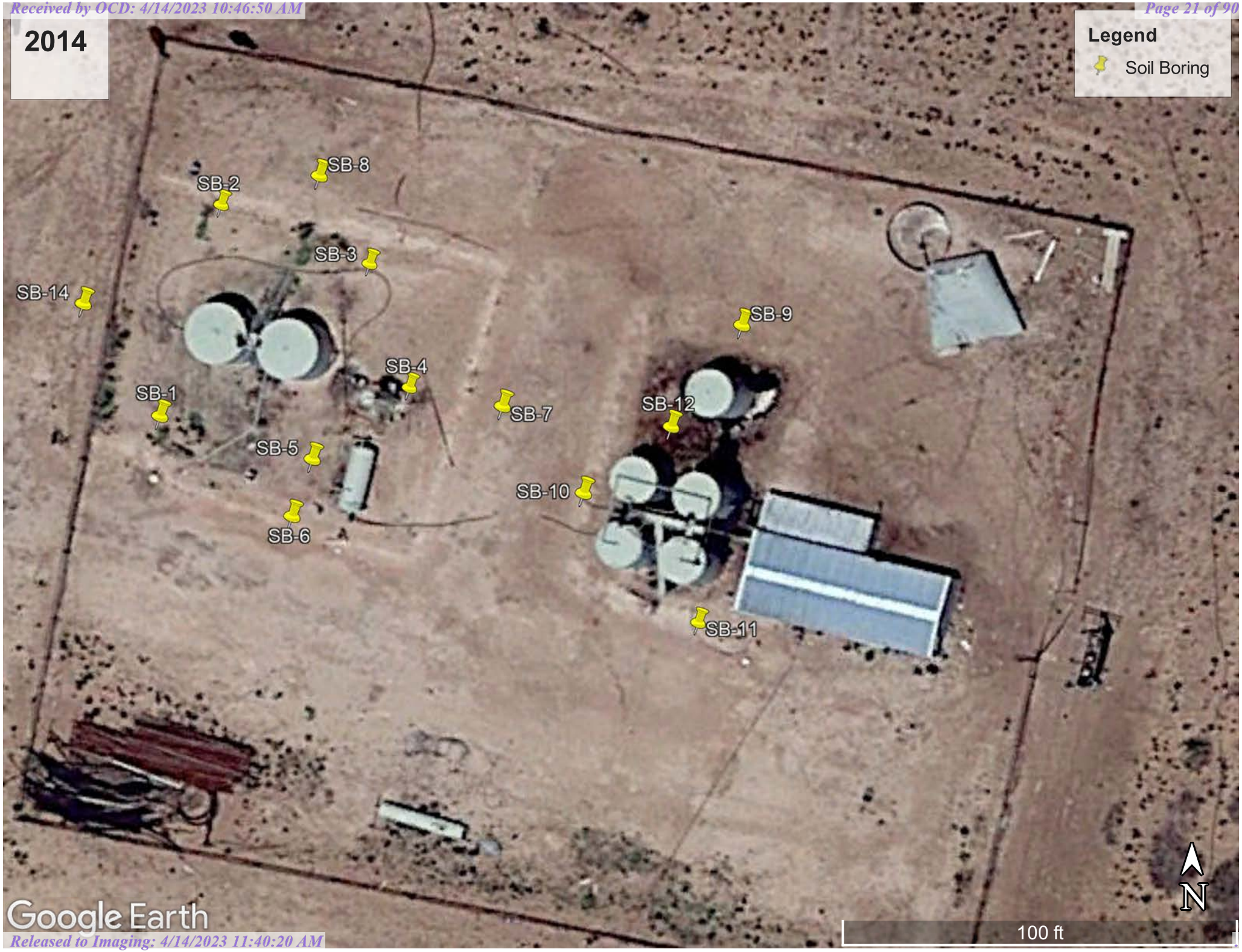
** Sample collected for laboratory correlation; Analytical results presented in **GREEN**

Samples collected below 4 ft; release closure standard pending confirmation of depth to groundwater

NA - Not analyzed; VOCs were determined to not be a reference point for field screening

Appendix A

Historical Aerials


2014
Legend
Soil Boring
SB-8
SB-2
SB-3
SB-14
SB-9
SB-4
SB-1
SB-7
SB-12
SB-5
SB-10
SB-6
SB-11
N
100 ft
Google Earth

Appendix B

Siting Criteria

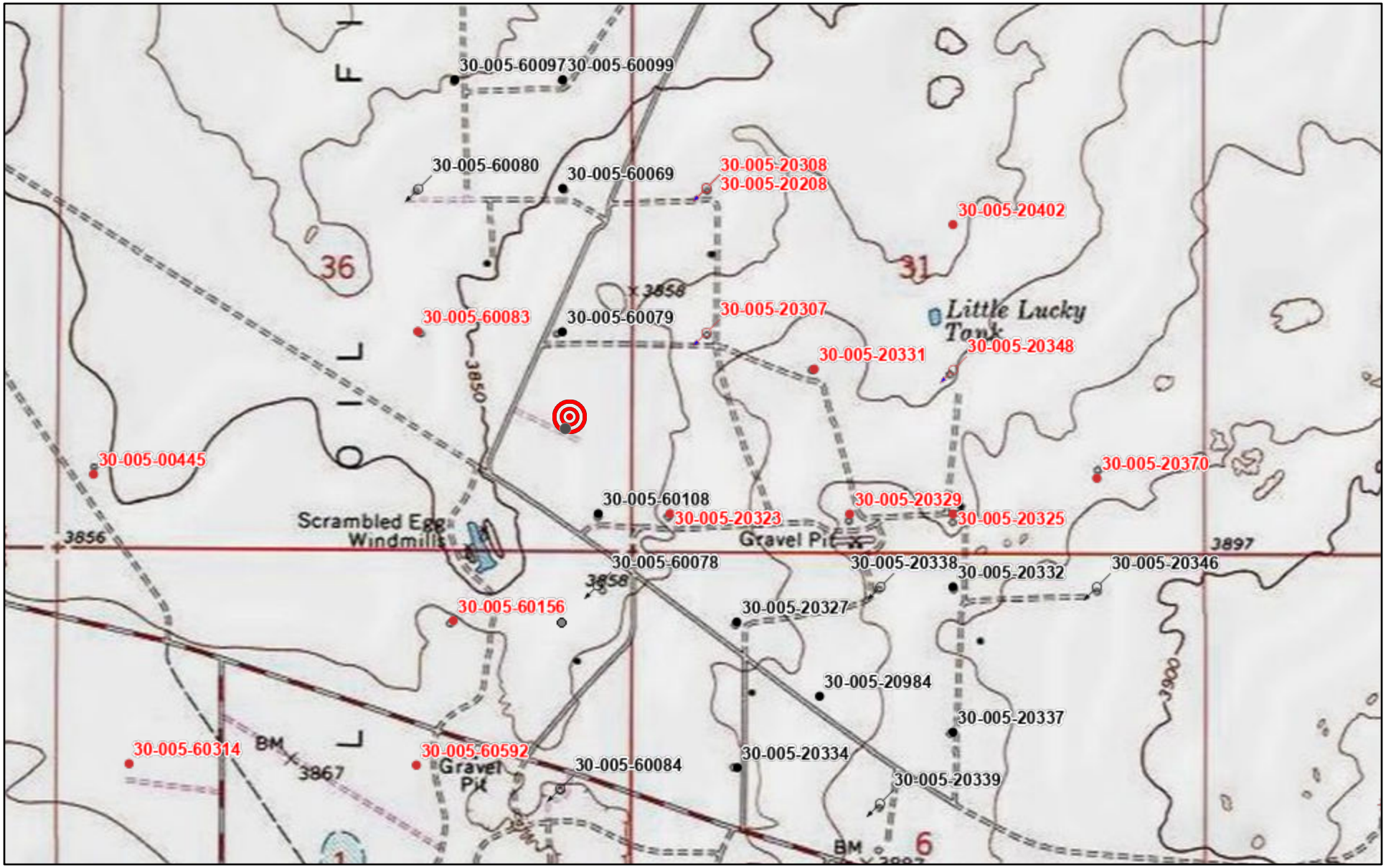
Site Name:	**Canyon E&P Double L Queen Tank Battery**	
API #:	Not Applicable	
Lat/Long:	33.055390, -103.975098	
Legal Description (Unit, Sec, TWN, RNG)	Unit P, Sec 36, T14S, R29E	
Land Jurisdiction:	State	
County:	Chavez	
Wellhead Protection Area Assessment		

Water Source Type (well/spring/stock pond)	ID	Latitude	Longitude	Distance
Pond		33.05273	-103.97774	837 ft

Depth to Groundwater Determination: _50-100_ ft (bgs)	
Cathodic Report/Site Specific Hydrogeology	
Elevation Differential	1 foot elevation change between site and USGS well
Water Wells	USGS Well within 2 miles indicates water is less than 100 feet
Sensitive Receptor Determination	
Was groundwater or surface water impacted?	No
<300' of any continuously flowing watercourse or any other significant watercourse	No
<200' of any lakebed, sinkhole or playa lake (measured from the Ordinary High Water Mark)	No
<300' of an occupied permanent residence, school, hospital, institution or church	No
<500' of a spring or private/domestic water well used by <5 households for domestic or stock watering purposes	No
<1000' of any water well or spring	No
Within incorporated municipal boundaries or within a defined municipal fresh water well field	No
<300' of a wetland	No
Within the area overlying a subsurface mine	No
Within an unstable area or karst topography	No
Within a 100-year floodplain: Located in unmapped area	No
Did the release impact areas NOT on an exploration, development, production, or storage site?	Yes

DTW Determination	**≤50** ☐	**50-100** ☑	**>100** ☐	
Benzene	**10**	**10**	**10**	
BTEX (mg/kg)	**50**	**50**	**50**	
8015 TPH (GRO/DRO) (mg/kg)	**Not Applicable**	**1,000**	**1,000**	
8015 TPH (GRO/DRO/MRO) (mg/kg)	**100**	**2,500**	**2,500**	
Chlorides (mg/kg)	**600**	**10,000**	**20,000**	

OCD Well Locations



1/12/2023, 10:38:43 AM

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

Override 1

Wells - Large Scale

Gas, Plugged

Injection, Active

Injection, Plugged

Oil, Active

Oil, Plugged

OSE PODs

Active

Inactive

Pending

Changed Location of Well

Capped

Plugged

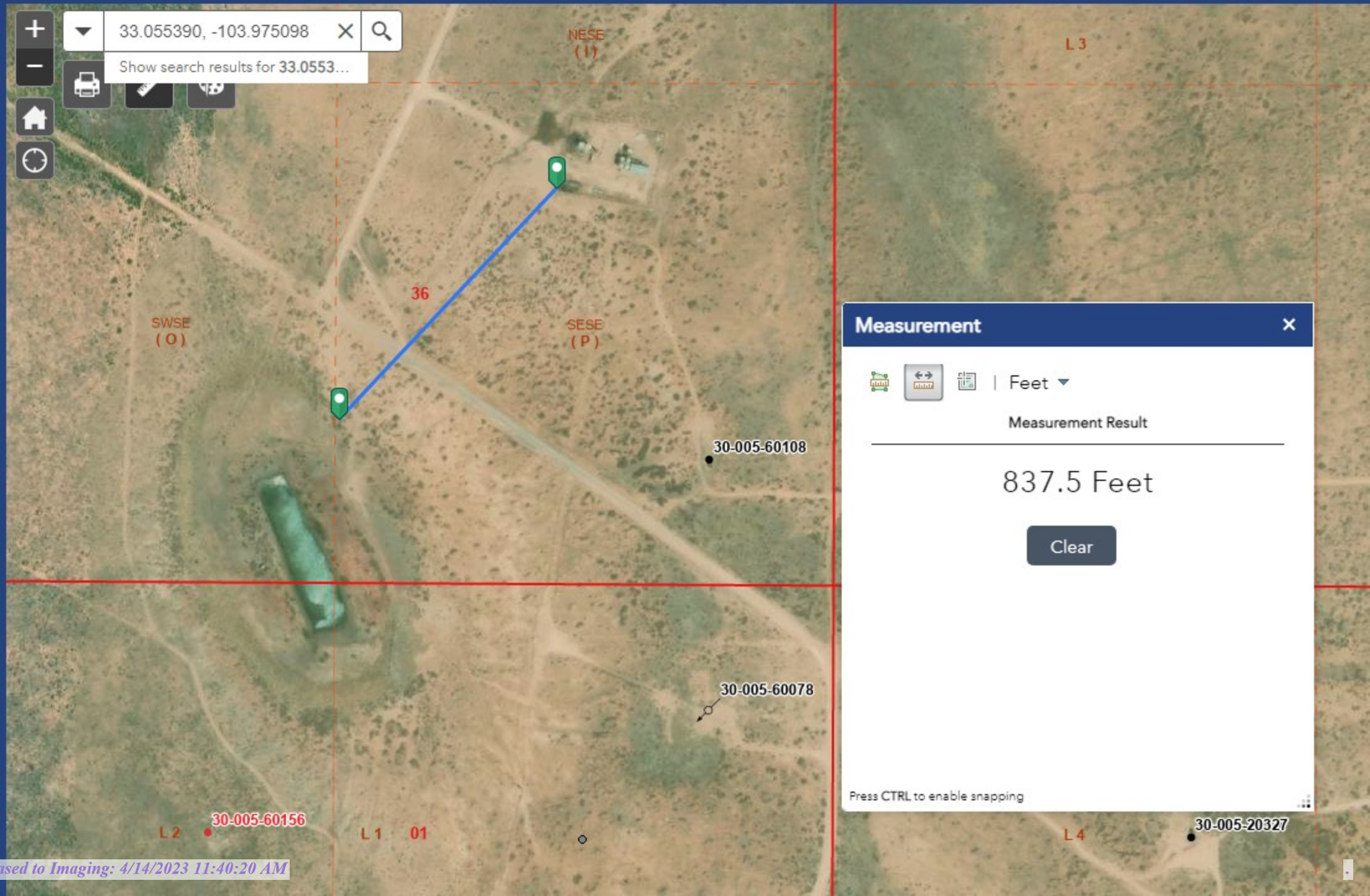
Unknown

OSE GIS, Oil Conservation Division of the New Mexico Energy, Minerals and Natural Resources Department., USGS, Copyright:© 2013 National

New Mexico Oil Conservation Division

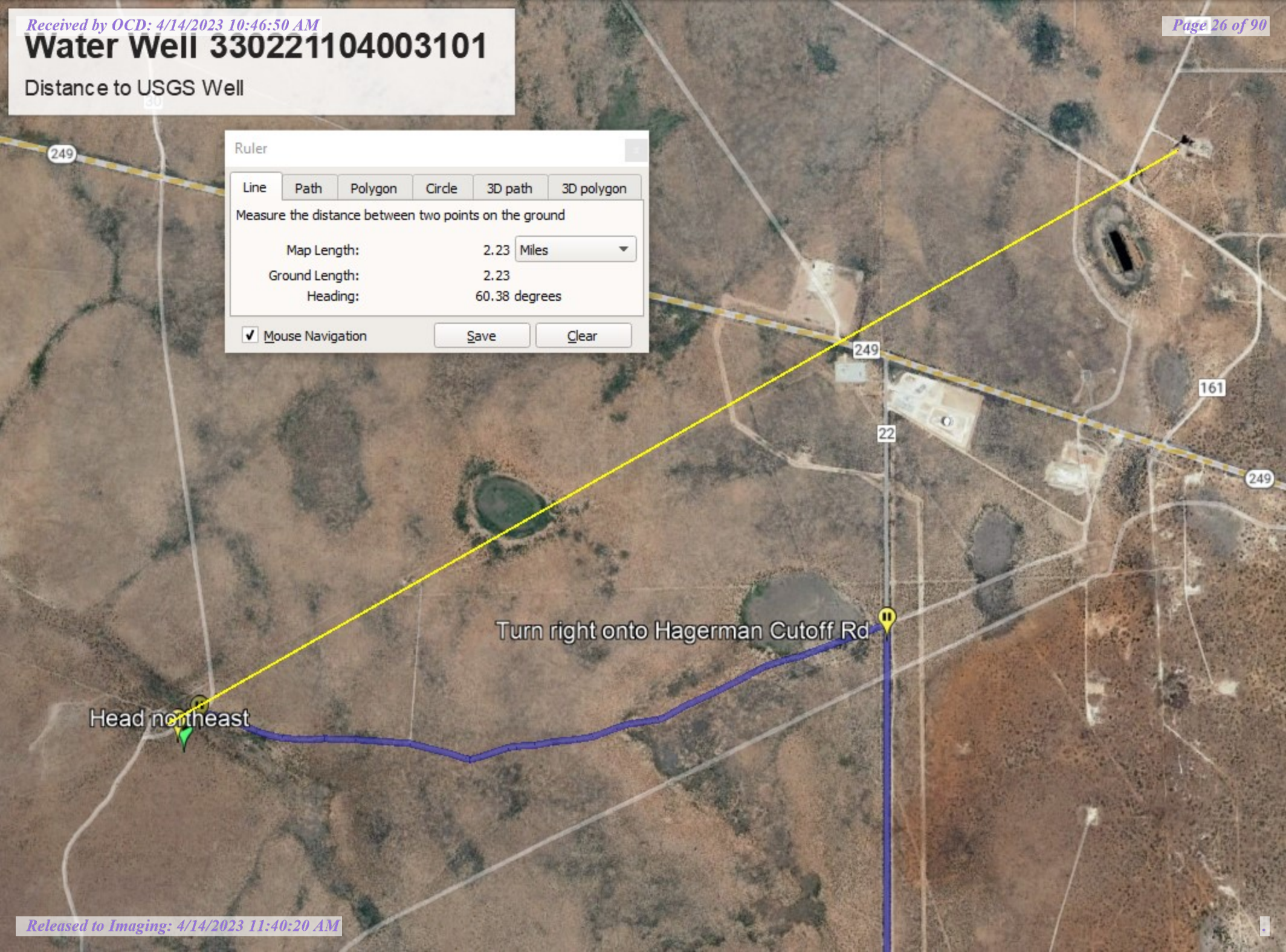
NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75: New Mexico Oil Conservation Division

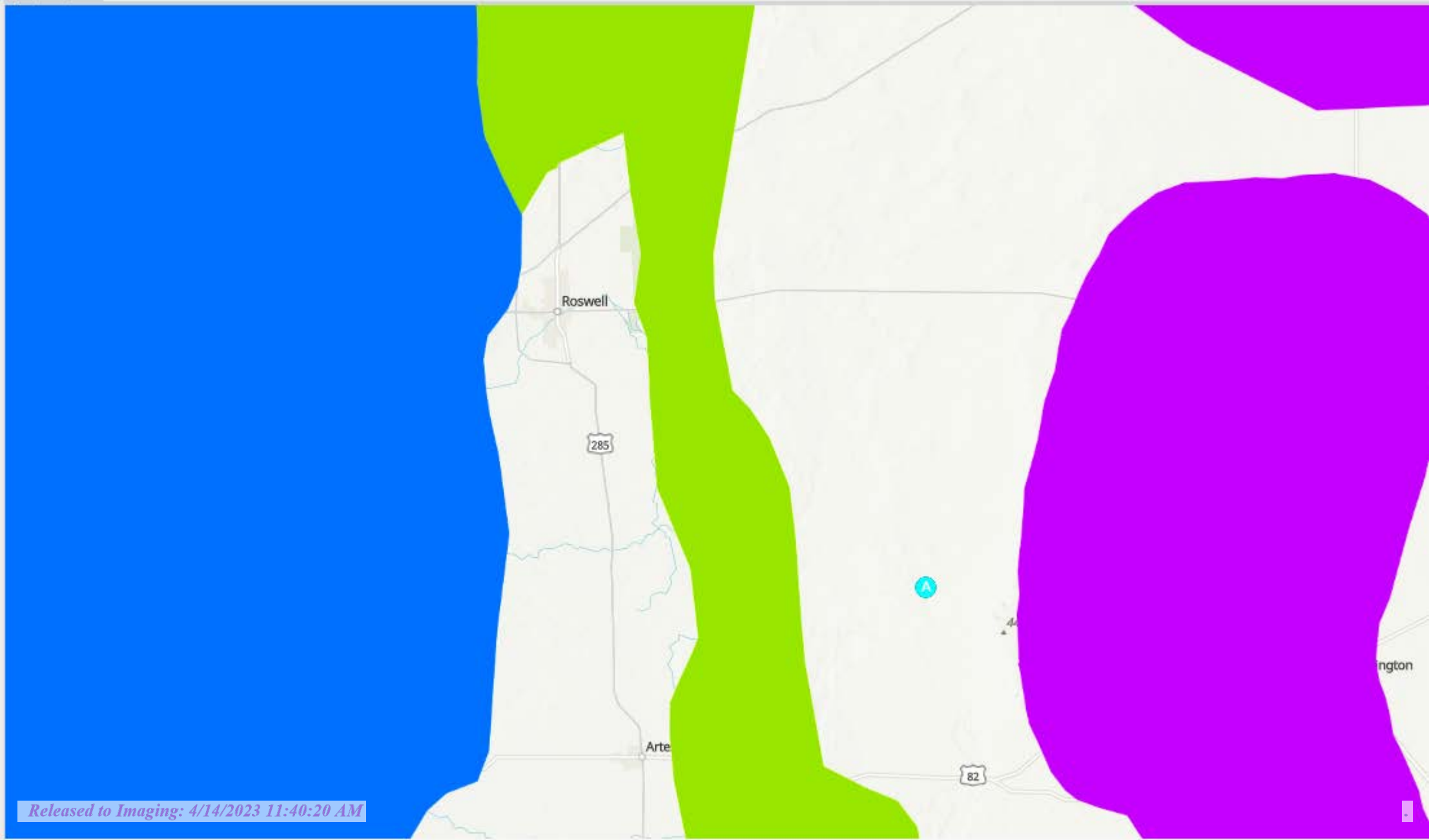
NM OCD OIL AND GAS MAP New Mexico Oil Conservation Division



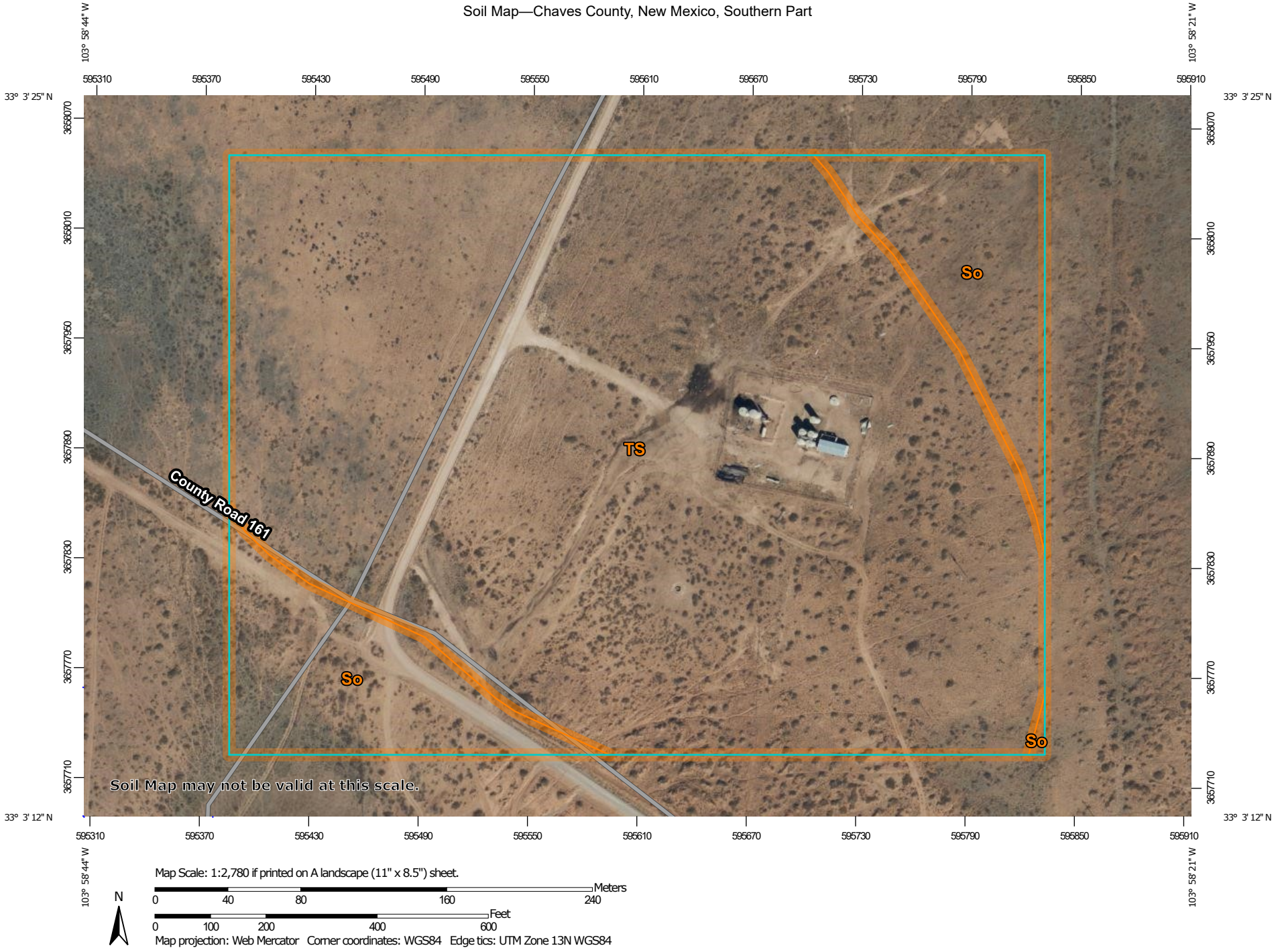
Water Well 330221104003101

Distance to USGS Well





Soil Map—Chaves County, New Mexico, Southern Part



Chaves County, New Mexico, Southern Part

TS—Tencee-Sotim association

Map Unit Setting

National map unit symbol: 1w8f
Elevation: 3,200 to 6,000 feet
Mean annual precipitation: 10 to 16 inches
Mean annual air temperature: 55 to 65 degrees F
Frost-free period: 140 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Tencee and similar soils: 50 percent
Sotim and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tencee

Setting

Landform: Hillslopes, low hills
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Side slope, base slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Calcareous alluvium and/or eolian deposits derived from sedimentary rock

Typical profile

H1 - 0 to 2 inches: gravelly fine sandy loam
H2 - 2 to 9 inches: very gravelly loam
H3 - 9 to 13 inches: cemented material

Properties and qualities

Slope: 1 to 9 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 45 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Very low (about 0.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R070BC025NM - Shallow
Hydric soil rating: No

Description of Sotim

Setting

Landform: Plains, alluvial fans
Landform position (three-dimensional): Rise
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Mixed alluvium and/or eolian deposits derived from sedimentary rock

Typical profile

H1 - 0 to 7 inches: fine sandy loam
H2 - 7 to 70 inches: clay loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: R070BD004NM - Sandy
Hydric soil rating: No

Minor Components

Simona

Percent of map unit: 5 percent
Ecological site: R070BD002NM - Shallow Sandy
Hydric soil rating: No

Berino

Percent of map unit: 5 percent

Ecological site: R070BD004NM - Sandy
Hydric soil rating: No

Pecos
Percent of map unit: 5 percent
Ecological site: R070BC008NM - Draw
Hydric soil rating: No

Rock outcrop
Percent of map unit: 4 percent
Ecological site: R042CY158NM - Very Shallow
Hydric soil rating: No

Playa
Percent of map unit: 1 percent
Landform: Flood-plain playas
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R070BC017NM - Bottomland
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Chaves County, New Mexico, Southern Part
Survey Area Data: Version 17, Sep 8, 2022

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

Click to hideNews Bulletins

- See the Water Data for the Nation Blog for the latest news and updates.

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

site_no list =

- 330221104003101

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

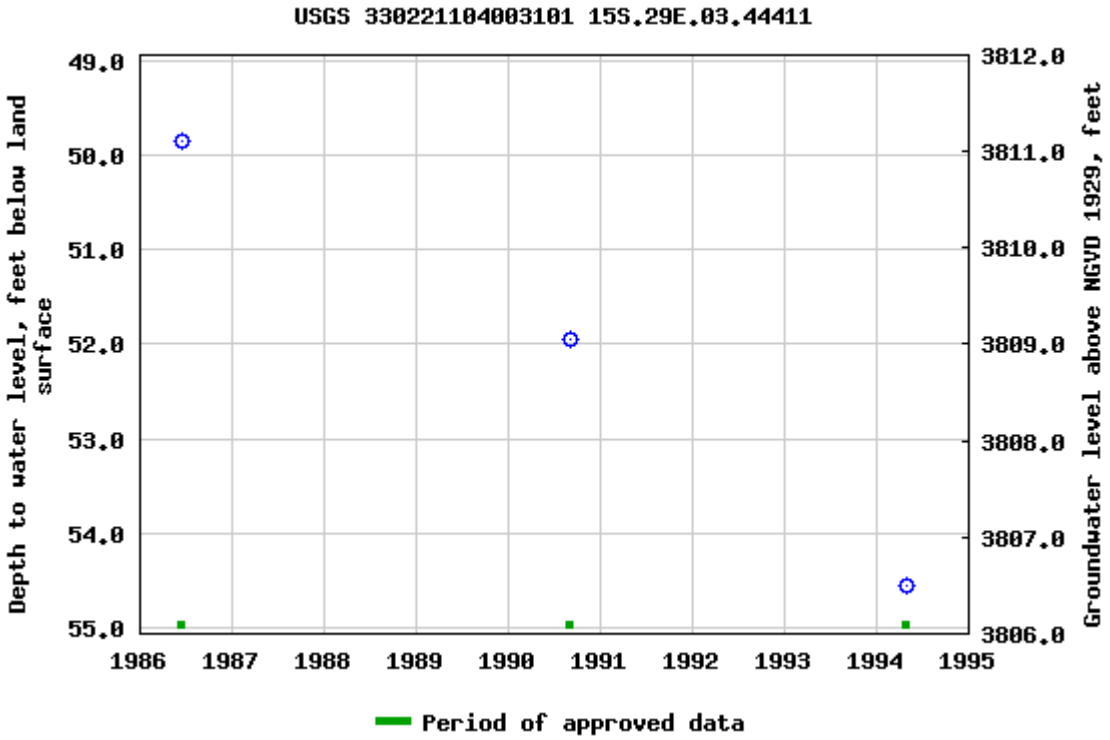
USGS 330221104003101 15S.29E.03.44411

Available data for this site | Groundwater: Field measurements | GO

Chaves County, New Mexico
Hydrologic Unit Code 13060007
Latitude 33°02'21", Longitude 104°00'31" NAD27
Land-surface elevation 3,861 feet above NGVD29
The depth of the well is 147.00 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Artesia Group (313ARTS) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2023-01-12 12:49:43 EST
0.59 0.52 nadww02

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Chaves County, New Mexico, Southern Part
Survey Area Data: Version 17, Sep 8, 2022

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

Date(s) aerial images were photographed: Feb 5, 2021—Feb 8, 2021

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
So	Sotim fine sandy loam	6.0	16.5%
TS	Tencee-Sotim association	30.3	83.5%
Totals for Area of Interest		**36.3**	**100.0%**

Appendix C

Site Photography

Site Photography
New Mexico Oil Conservation Division
Double L Queen Tank Battery
Site Characterization and Delineation
Project #23002-0001
January 24 – February 1, 2023

Photo 1: Double L Queen Tank Battery Facility

Photo 2: Tank Battery #1

envirotech

Practical Solutions for a Better Tomorrow

Site Photography
New Mexico Oil Conservation Division
Double L Queen Tank Battery
Site Characterization and Delineation
Project #23002-0001
January 24 – February 1, 2023

Photo 3: Surface Lines Tank Battery #1

Photo 4: Separator

Site Photography
New Mexico Oil Conservation Division
Double L Queen Tank Battery
Site Characterization and Delineation
Project #23002-0001
January 24 – February 1, 2023


Photo 5: Heater Treater


Photo 6: Tank #1 Release

envirotech
Practical Solutions for a Better Tomorrow

Site Photography
New Mexico Oil Conservation Division
Double L Queen Tank Battery
Site Characterization and Delineation
Project #23002-0001
January 24 – February 1, 2023


Photo 7: Release Between Tanks 1 and 2


Photo 8: Tank Battery #2

envirotech
Practical Solutions for a Better Tomorrow

Site Photography
New Mexico Oil Conservation Division
Double L Queen Tank Battery
Site Characterization and Delineation
Project #23002-0001
January 24 – February 1, 2023


Photo 9: Overflow Evidence Tank Battery #2


Photo 10: Release in Tank Battery #2

Site Photography
New Mexico Oil Conservation Division
Double L Queen Tank Battery
Site Characterization and Delineation
Project #23002-0001
January 24 – February 1, 2023

Photo 11: Contaminated Sump in Tank Battery #2

Photo12: Facility Building

envirotech
Practical Solutions for a Better Tomorrow

Site Photography
New Mexico Oil Conservation Division
Double L Queen Tank Battery
Site Characterization and Delineation
Project #23002-0001
January 24 – February 1, 2023

Photo 13: Interior of Building

Photo 14: Former Restroom

Site Photography
New Mexico Oil Conservation Division
Double L Queen Tank Battery
Site Characterization and Delineation
Project #23002-0001
January 24 – February 1, 2023


Photo 15: Tank #3 with Expansion Damage


Photo 16: Debris

Site Photography
New Mexico Oil Conservation Division
Double L Queen Tank Battery
Site Characterization and Delineation
Project #23002-0001
January 24 – February 1, 2023

Photo 17: Debris

Photo 18: Pipe Debris

envirotech
Practical Solutions for a Better Tomorrow

Site Photography
New Mexico Oil Conservation Division
Double L Queen Tank Battery
Site Characterization and Delineation
Project #23002-0001
January 24 – February 1, 2023


Photo 19: Asphaltine in Former Pit Area


Photo 20: Asphaltine in Northwest Corner

Site Photography
New Mexico Oil Conservation Division
Double L Queen Tank Battery
Site Characterization and Delineation
Project #23002-0001
January 24 – February 1, 2023

Photo 21: DCP Midstream Line Locate Outside Facility


Photo 22: Release Outside of Facility

Site Photography
New Mexico Oil Conservation Division
Double L Queen Tank Battery
Site Characterization and Delineation
Project #23002-0001
January 24 – February 1, 2023

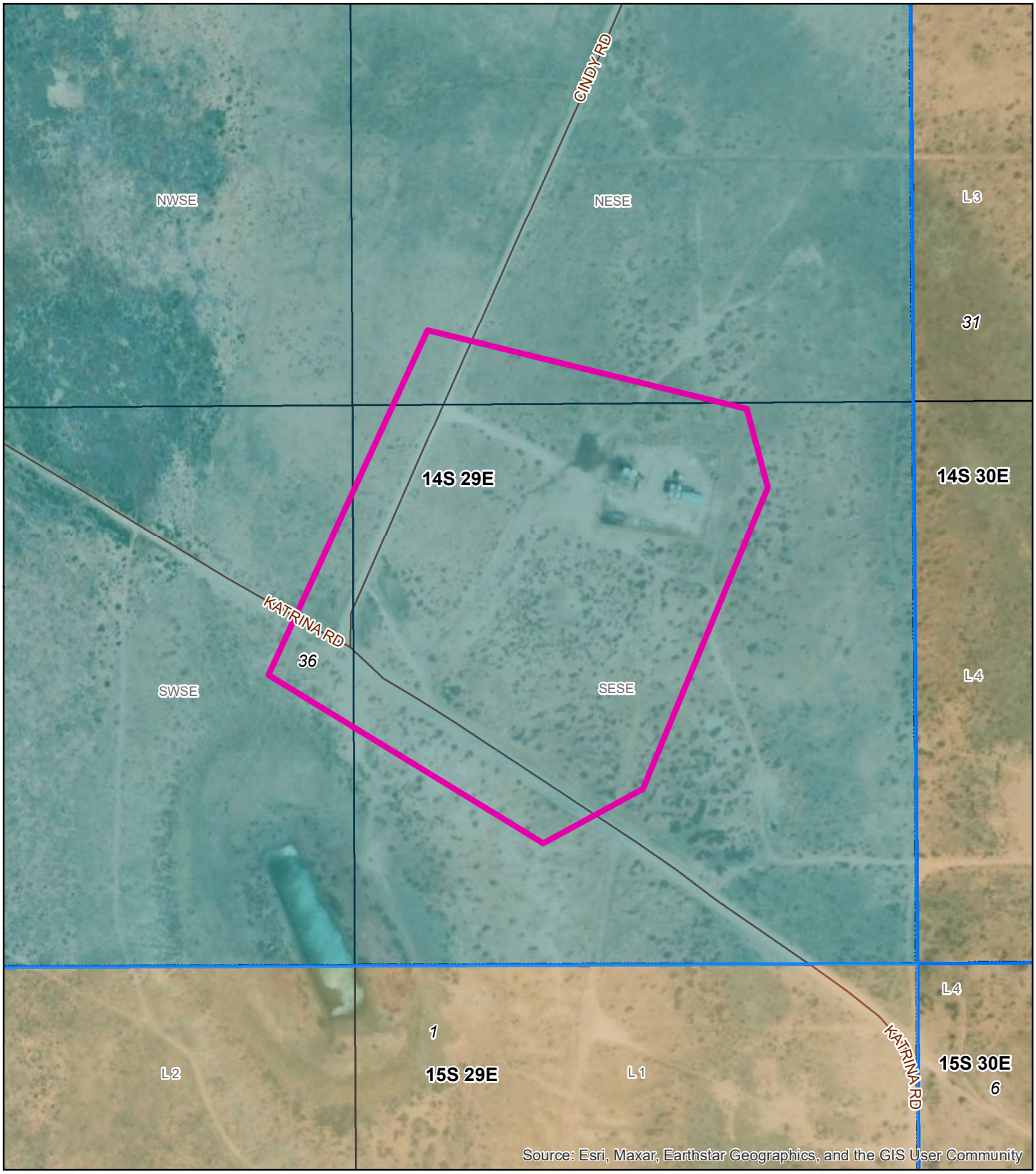

Photo 1: Stock Pond and Windmills South of Facility


Photo 2: Water Line Can South of Facility

envirotech
Practical Solutions for a Better Tomorrow

Appendix D

Arch Survey Map and Field Notes



Stephanie Garcia Richard
Commissioner of Public Lands
505-827-5761
www.nmstatelands.org

0.03 0.015 0 0.03 0.06 0.09 0.12 Miles

0.05 0.025 0 0.05 0.1 0.15 0.2 Kilometers

N

CHAVES
LEA
EDDY

Survey_area
Subsurface Estate
Surface Estate
Both Estates

'Double L Queen' Remediation
Archaeological Survey Area

27 January 2023

Map created by Anne Curry
Trust Land Archaeologist
505-827-1276
acurry@slo.state.nm.us

CLIENT: _____
CLIENT/JOB #: _____
START DATE: _____
FINISH DATE: _____
Page # _____ of _____

envirotech
(505) 632-0615 (800) 362-1879
5796 U.S. Hwy 64, Farmington, NM 87401

Environmental Specialist: _____
C.O.C. No: _____
LAT _____
LONG _____

FIELD REPORT: NORM TESTING VERIFICATION

LOCATION NAME: _____ WELL #: _____ API: _____
QUAD/UNIT: SEC: TWP: RNG: PM:
QTR/FOOTAGE: CNTY: ST:

BACKGROUD READING

pancake Probe #1 .02 mR/hr
scintillation Probe #2 0.08 → .8 mR/hr

ALLOWABLE CONCENTRATION (2 TIMES BACKGROUND)

Probe #1 _____ mR/hr
Probe #2 _____ mR/hr

TIME	SAMPLE I.D.	DESCRIPTION	CONCENTRATION Probe 1	Probe 2	
8:00	T1-P2	Tank one		.8	
8:01	T1	Tank one	.02		
8:01	T2-P2	tank two		.8	
8:02	T2	tank two	.02		
8:05	H	Hrater treater		.8	

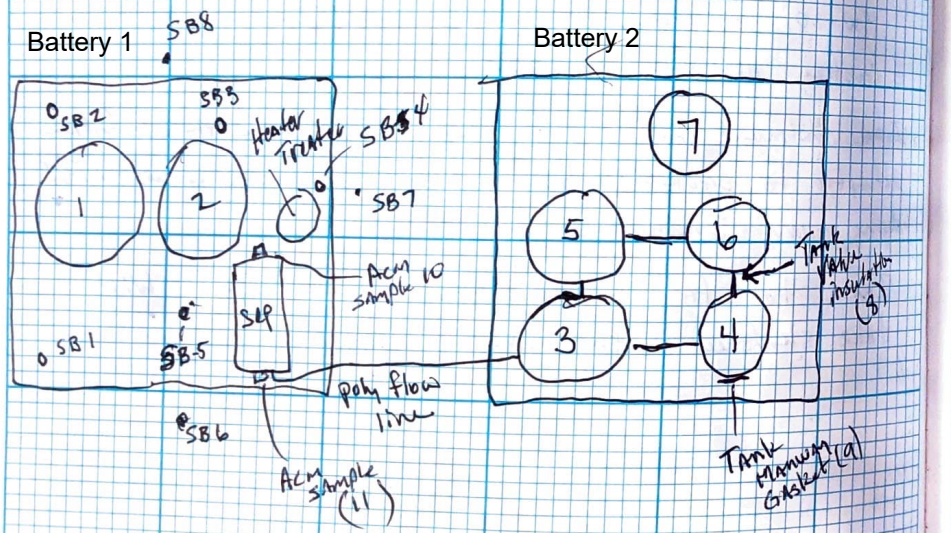
Notes:

Analyst Signature _____ Date _____

Printed Name _____ Instrument I.D. _____

Conversion Factors 1 Rem =	
Roentgen:	0.0838
Rem:	1
Sievert:	0.01
Coulomb/kilogram:	2.16E-05
Microcoulomb/kilogram:	21.6204
Millicoulomb/kilogram:	0.02162
Rep:	0.0838
Parker:	0.0838

SB-1 33.055518, -103.975302
SB-2 33.055649, -103.975502
SB-3 33.055408, -103.975179
SB 4 33.055522, -103.975146
SB5 33.055509, -103.975223
SB6 33.055482, -103.975226
SB7 33.055537, -103.975443
SB8 33.055704, -103.975143



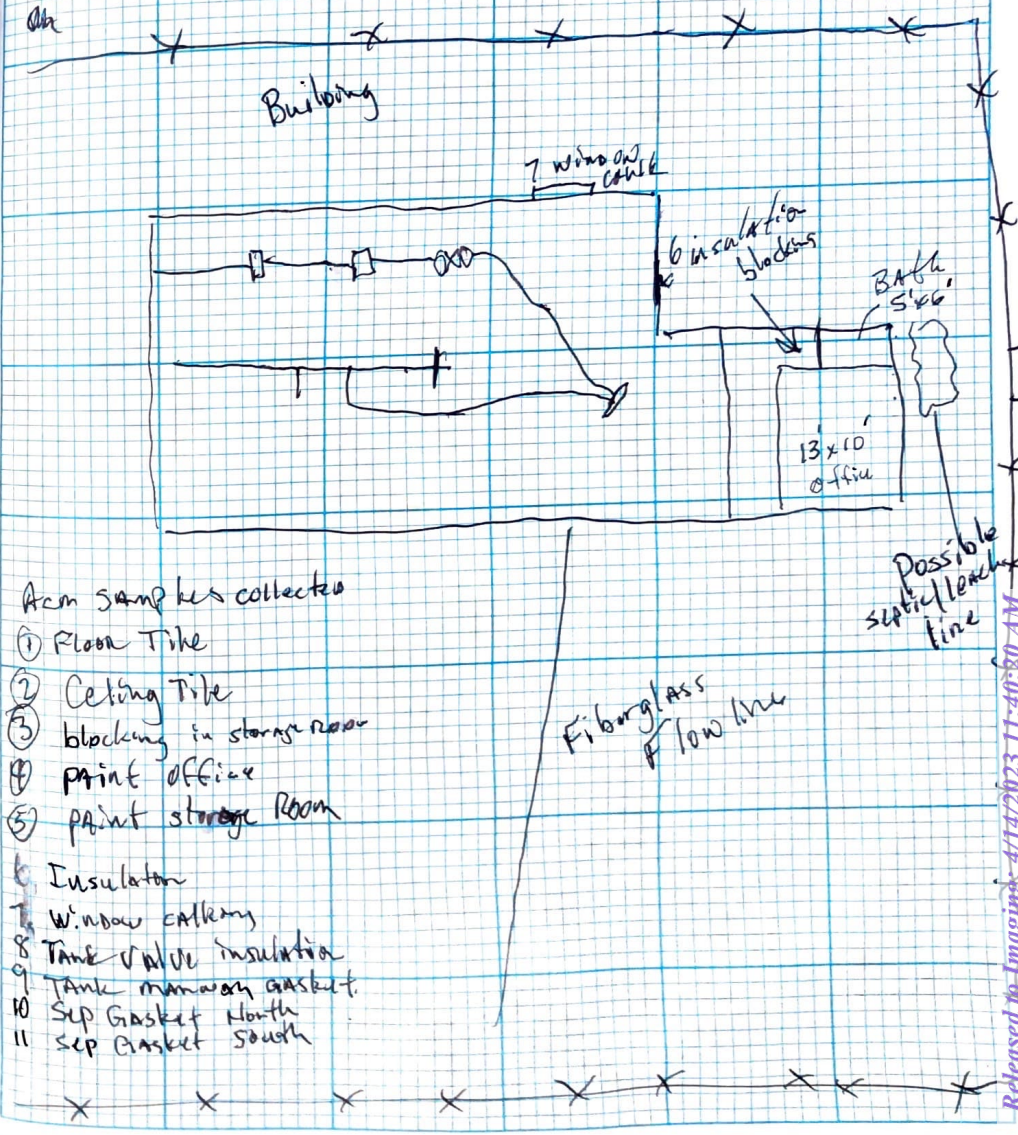
Tank # 3 bulging

1/24/23

Double L Queen

Onsite Approx 8 AM (Greg C., Austin F, Tim + Ray Martin)
Tim + Ray onsite ≈9 AM with Skidsteer + Auger
Drilled borings 1-5 to Approx 4' BGS (Took Samples Vary 1, 2 & 4' depths) Field screened for TPH, OVM + Chlorides

Double L Queen
1/24/23



Acm samples collected
① Floor Tile
② Ceiling Tile
③ blocking in storage room
④ paint office
⑤ paint storage Room
6 Insulation
7 Window caulking
8 Tank valve insulation
9 Tank manway GASKET
10 Sep Gasket North
11 sep Gasket South

Location:
Project #

Date: 1/24/23

CLIENT: NMOCD	envirotech	Envmtl. Spclst: A. Foutz	
CLIENT/JOB #: 23002-0002	505-632-0615 | 1-800-362-1879	Onsite: 7:45	Offsite: 15:30
DATE: 1/24/23	5796 US Highway 64	LAT:	
WEATHER: (TEMP, CONDITIONS) Snow Cold	Farmington, NM 87401	LONG:	
JSA TIME: 7:45			

Purpose/Objective: (include project narrative for daily work; be sure to include site conditions at end of day)
Horizontal Dilineation for TPH, Chlorides

LOCATION: Name: Double L Queen Well #: API:
County: [redacted] Chavez State: NM HWY-MM:
Cause of Release: Oil tank Battery Leak Material Released: Oil Amt. Released:
QUAD/UNIT: SEC: TWP: RNG: PM:

Spill Located Approximately: _____ FT. FROM (fixed landmark)
Excavation Approx: _____ FT. X _____ FT. X _____ FT. Volume (cy/tons):
Disposal Facility:
Land Use/Well Status Land Owner:
REGULATORY AGENCY: CLOSURE STDs:
ADDITIONAL CLOSURE REQUIREMENTS:

			TPH			VOC		Chloride	Lab
SAMPLE NAME	TIME COLLECTED	DESCRIPTION (lat/long or location)	TIME	READING	CAL ppm	TIME	PID/OV ppm	mg/kg	Y/N
200/500/1250 Standards	/	/	/	/					
SB1@1'	10:15	Dark, odor	10:20	[redacted]409	1686				
SB1@2'	10:22	Dark odor	10:25	891	3564		0.6	181	
SB1@4'	10:30	Light	10:35	15	60			1350	
SB2@1'	10:40	Light Brown, odor	10:54	766	3064		1.7		
SB2@2'	10:44	Dark, odor	11:38	249	996			426	
SB2@4'	10:45	Light, tan	11:42	39	156			472	
SB3@1'	10:50	Dark, odor	12:15	222	888			83	
SB3@2'	10:52	Dark, odor	12:17	46	184			83	
SB3@4'	10:56	Light	12:22	7	28			904	
SB4@1'	11:30	Dark, odor	12:46	1566	6264			3231	
SB4@2'	11:33	Dark	12:48	262	1048			2963	
SB4@4'	11:36	Light	12:52	67	268			2726	

Notes:

Location:
Project #

Date:

CLIENT: NMOC2	envirotech	Envmtl. Spclst: A. Foutz	
CLIENT/JOB #: 23002-0002	505-632-0615 | 1-800-362-1879	Onsite: 7:45	Offsite: 15:30
DATE: 1/24/23	5796 US Highway 64	LAT:	
WEATHER: (TEMP, CONDITIONS) Snow	Farmington, NM 87401	LONG:	
JSA TIME: 7:45			

Purpose/Objective: (include project narrative for daily work; be sure to include site conditions at end of day)

Horizontal Diineation for TPH & Chlorides

LOCATION: Name: Double L Queen Well #: API:

County: Chavez State: NM HWY-MM:

Cause of Release: Tank Battery Leak Material Released: Oil Amt. Released:

QUAD/UNIT: SEC: TWP: RNG: PM:

Spill Located Approximately: FT. FROM (fixed landmark)

Excavation Approx: FT. X FT. X FT. Volume (cy/tons):

Disposal Facility: Land Owner:

Land Use/Well Status

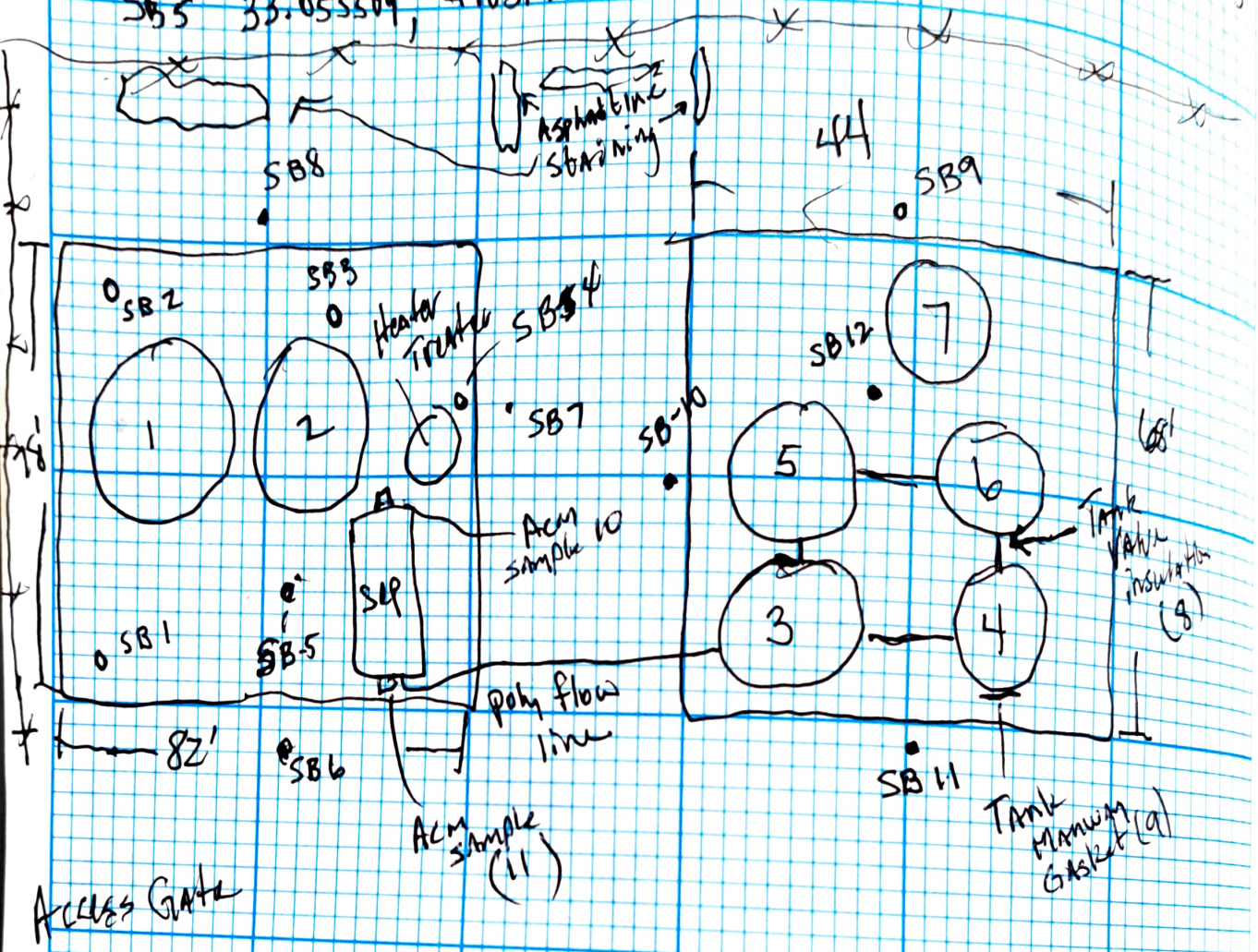
REGULATORY AGENCY: CLOSURE STDs:

ADDITIONAL CLOSURE REQUIREMENTS:

			TPH			VOC		Chloride	Lab
SAMPLE NAME	TIME COLLECTED	DESCRIPTION (lat/long or location)	TIME	READING	CAL ppm	TIME	PID/OV ppm	mg/kg	Y/N
200/500/1250 Standards	/ /		/ /						
SB5@1	12:15	Dark, odor	13:16	403	1612			>6148	
SB5@2'	12:18	Dark	13:19	265	1060			2726	
SB5@4'	12:21	Light tan	13:22	76	304			3534	
SB6@1'	13:25	Dark	13:40	90	360			1458	
SB6@2'	13:30	Dark	13:43	104	416			1458	
SB6@4'									
SB7@1'	13:40	Dark ~~Moder~~	13:58	1677	6708		0.6	>6148	HR 3883
SB7@2'	13:42	Dark ~~Moder~~	14:02	1095	4380			>6148	HR 3883
SB8@1'	14:00	Dark No odor	14:17	155	620				
SB8@2'	14:02	Dark ↓	14:23	44	176				

Notes:

SB-1 33.055518, -103.975302
SB-2 33.055649, -103.975302
SB-3 33.055408, -103.975179
SB 4 33.055522, -103.975146
SB 5 33.055509, -103.975223
SB 6 33.055482, -103.975226
SB 7 33.055537, -103.975143
SB 8 33.055704, -103.975143



Tank # 3 bulging

1/24/23

Double L Queen

On site Approx 8 am (Greg C., Austin F, Tim + Ray Martin)
Tim + Ray onsite ~9 am with Skidsteer + Auger
Drilled borings 1-5 to Approx 4' BGS (Took samples Every 1, 2' & 4' depths) Field screened for TPH, OVM + Chlorides

1/25/23

Double L Quicks

Onsite 7:50 am. Extended borings 6, 7 + 8 to 6' Drilled Borings 9, 10, 11 outside of Battery produced water tank to 4'. Drilled boring 12 inside battery of produced water tank battery to 4'. TPH sample in boring 12 still high so extended to 6'. Also extended boring 4 & 5 to 8'. No sample collection from boring 5 at 8' due to geology stuck & damaging Auger.

SB-9	33.055554, -103.974800
SB-10	33.055441, -103.974929
SB-11	33.055359, -103.974907
SB-12	33.055455, -103.974874

Tank 1 - no name plate bolted together 16' tall 14.7' to sludge

Tank 2 - 15'6" x 16, 500 bbl Depth to sludge 15.7'

Tank 3 - 12' x 20' 380 bbl Depth to sludge 19.6'

Tank 4 - 12' x 20' 380 bbl name plate barely visable
* thief hatch stuck shut no depth to sludge

Tank 5 - 12 x 20 no name plate 18.8' to Sludge

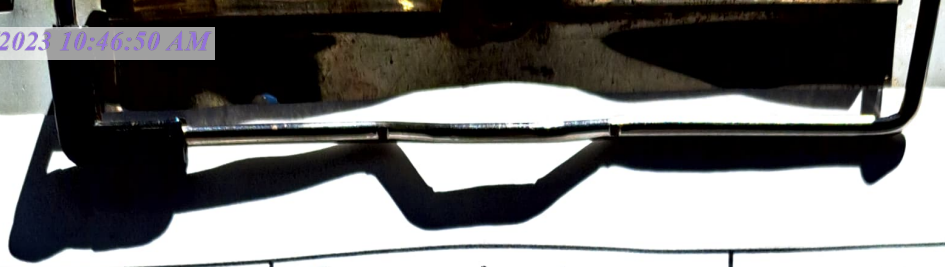
Tank 6 - 12 x 20 no - name plate ~~18.6~~ 18.2 depth to sludge

Tank 7 12 x 20 name plate not legible, No access to top no catwalk

* All tanks except tank 4 & 7 measured with 4 Gas monitor/pid. All tanks measured atmospheric concentrations for the gases measured (0 ppm H_2S, 0 ppm CO, 0 % CH_4, 20.9% O_2

Weather Conditions
≈ 40° F, winds ≈ 10 mph

* Measured Access road @ 425' long and 20' wide



CLIENT: NMOCD	envirotech	Envmtl. Spclst: A. Foutz	
CLIENT/JOB #: 23002-0002	505-632-0615 | 1-800-362-1879	Site Name: Double L Queen	
DATE: 1/24/23	5796 US Highway 64	LAT	
Page # 3 of 3	Farmington, NM 87401	LONG	

Field Screening Report

SAMPLE NAME	TIME COLLECTED	DESCRIPTION (lat/long or location)	TPH TIME	TPH READING	TPH CALC. ppm	VOC TIME	VOC PID/OV ppm	Chloride mg/kg	Lab Y/N
SB6@4'	8:55	Tan, no odor	9:26	19	76			1836	
SB7@4'	9:02	Dark	9:31	35	140			3883	
SB8@4'	9:16	Dark, odor	9:34	4	16			1836	
SB9@1	9:30	Dark, odor	10:04	347	1388			982	
SB9@2	9:35	Dark odor	10:08	296	1184			2319	
SB9@4'	9:40	Tan, No odor	10:11	1	4			1984	
SB10@1	10:00	Dark	10:15	401	1604			3883	
SB10@2	10:02	Dark	10:18	488	1952			26148	
SB10@4	10:05	Tan	10:21	119	476			76148	
SB12@1	10:10	Dark, odor	10:40	1399	5596			[illegible]26	
SB12@2	10:13		10:43	500	2000			3883	
SB12@4	10:17		10:45	144	576			2319	
SB11@1	10:23	Dark, odor	11:06	51	204			1984	
SB11@2	10:25	Dark	11:09	27	108			1458	
SB11@4	10:28	Tan	11:00	0	0			2144	
SB12@6	11:20	Dark, odor	11:35	33	132			1836	
SB4@6	11:35	Light, No odor	11:46	55	220			1836	
SB4@8'	11:37	Red, No odor	11:56	90	360			1575	
SB5@6'	11:57	Light, No odor	12:01	39	156			1575	

NOTES: *Include laboratory analysis information*

ark spots and soil due to Natural soil and or Contamination, annot Determine.

1/31/2023 - 2/1/2023 DOUBLE L QUEEN

GPS coordinates:

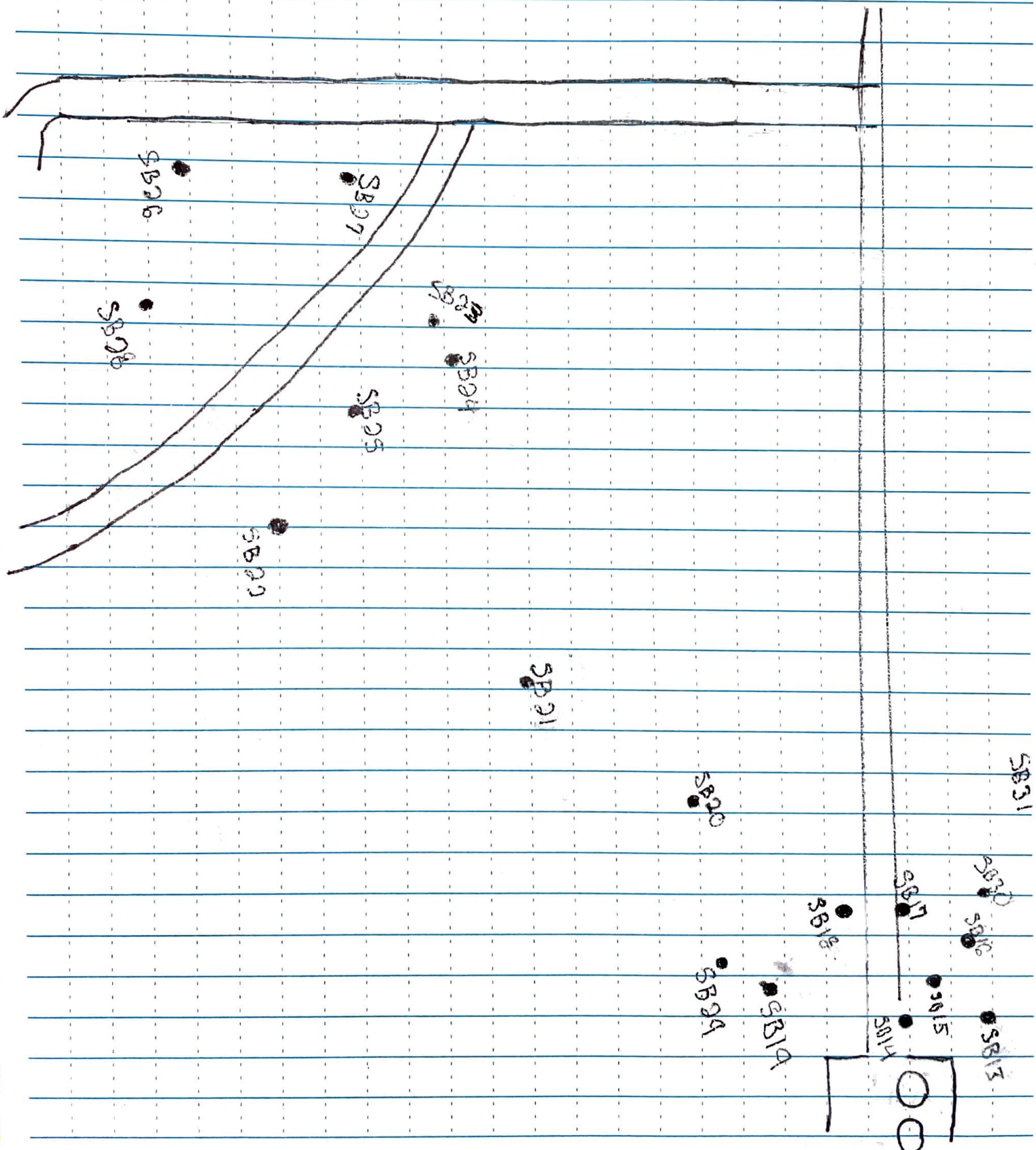
- SB-13: 33.055838, -103.975378
- SB-14: 33.055576, -103.975446
- SB-15: 33.055684, -103.975490
- SB-16: 33.055792, -103.975551
- SB-17: 33.055651, -103.975659
- SB-18: 33.055513, -103.975834
- SB-19: 33.055394, -103.975797
- SB-20: 33.055341, -103.976058
- SB-21: 33.054847, -103.976363
- SB-22: 33.054380, -103.976830
- SB-23: 33.054731, -103.977065
- SB-24: 33.054808, -103.976955
- SB-25: 33.054597, -103.976951
- SB-26: 33.054522, -103.977267
- SB-27 33.054682, -103.977265
- SB-28 33.054492, -103.977150
- SB-29 33.055350, -103.975761
- SB-30 33.055800, -103.975588
- SB-31 33.055885, -103.975883 (BACKGROUND SAMPLE)

*TESTED for TPH & Chlorides

Scale: 1 square =

: ROAD

• Soil Borings



Location:
Project #

Date:

CLIENT: NMOCD	envirotech		Envmtl. Spclst: D. Aragon / J. Garcia
CLIENT/JOB #: 23002-0002			Onsite: 09:00 Offsite:
DATE: 01/31/2023	505-632-0615 | 1-800-362-1879		LAT:
WEATHER: (TEMP, CONDITIONS)	5796 US Highway 64		LONG:
JSA TIME:	Farmington, NM 87401		

Purpose/Objective: (include project narrative for daily work; be sure to include site conditions at end of day)
Horizontal / vertical dilineation for TPH and Chlorides

LOCATION: Name: DOUBLE L QUEEN Well #: API:
County: CHAVEZ State: NM HWY-MM:
Cause of Release: oil tank battery leak Material Released: Oil Amt. Released:
QUAD/UNIT: SEC: TWP: RNG: PM:

Spill Located Approximately: FT. FROM (fixed landmark)
Excavation Approx: FT. X FT. X FT. Volume (cy/tons):
Disposal Facility:
Land Use/Well Status Land Owner:

REGULATORY AGENCY: CLOSURE STDs:
ADDITIONAL CLOSURE REQUIREMENTS:

			TPH			VOC		Chloride	Lab
SAMPLE NAME	TIME COLLECTED	DESCRIPTION (lat/long or location)	TIME	READING	CAL ppm	TIME	PID/OV ppm	mg/kg	Y/N
200/500/1250 Standards	11:54	1208std/179	/	/					
SB13@1'	12:15	Dark Brown	12:58	147	588			426	
SB13@2'	12:17	Medium Dark Brown	13:02	16	64			762	
SB13@4'	12:20	Light Brown	13:05	7	28			1700	
SB14@1	12:23	Dark Brown	13:10	16	64			678	
SB14@2'	12:25	Light Brown	13:13	2	8			1836	
SB14@4	12:28	Light Brown	13:15	4	16			3234	
SB15@1	12:33	Dark Brown	14:27	425	1700			636	
SB15@2	12:36	Medium Brown	14:30	64	256			1068	
SB15@4	12:39	Light Brown	14:38	23	92			1575	
SB16@1	12:42	Dark Brown	14:41	1306	5224			294	
SB16@2'	12:45	Medium Brown	14:45	1558	6232			831	
SB16@4'	12:48	Light Brown	14:48	16	64			1575	

Notes:

CLIENT: NMOCD	envirotech	Envmtl. Spclst: I. Garcia
CLIENT/JOB #: 23002-0067	505-632-0615 | 1-800-362-1879	Site Name: D. Aragon
DATE: 1-31-2023	5796 US Highway 64	LAT
Page # 2 of 2	Farmington, NM 87401	LONG

Field Screening Report

SAMPLE NAME	TIME COLLECTED	DESCRIPTION (lat/long or location)	TPH TIME	TPH READING	TPH CALC. ppm	VOC TIME	VOC PID/OV ppm	Chloride mg/kg	Lab Y/N
SB17@1'	12:51	Dark Brown	15:16	18	72			<32	
SB17@2'	12:54	Medium Brown						64	
SB17@4'	12:59	Light Brown						189	
SB18@1'	13:01	Dark Brown	15:24	136	544			61	
SB18@2'	13:03	Light Brown	15:27	59	236			1575	
SB18@4'	13:06	Light Brown	15:40	2	8			1836	
SB19@1	13:11	Dark Brown	15:56	620	2480			1458	
SB19@2	13:13	Dark Brown	15:59	834	3336			1575	
SB19@4	13:16	Light/Medium Br.	16:03	896	3584			1154	
SB20@1	13:20	Dark Brown	16:08	1293	5172			<32	
SB20@2	13:23	Medium Brown	16:11	98	392			45	
SB20@4	13:25	Medium Brown	16:14	167	668			474	
SB21@1'	13:30	Medium Brown	16:21	22	88			160	
SB21@2	13:33	Medium Brown						1068	
SB21@4'	13:36	Medium Brown						894	

NOTES: *Include laboratory analysis information*

Revised 6/14/2021

Location:
Project #

Date:

CLIENT: NMOCD	envirotech		Envmtl. Spclst: D. Aragon / T. Garcia
CLIENT/JOB #: 23002-0002			Onsite: 08:00 Offsite:
DATE: 2/1/2023	505-632-0615 | 1-800-362-1879		LAT:
WEATHER: (TEMP, CONDITIONS)	5796 US Highway 64		LONG:
JSA TIME:	Farmington, NM 87401		

Purpose/Objective: (include project narrative for daily work; be sure to include site conditions at end of day)
Horizontal / vertical dilineation for TPH and Chlorides

LOCATION: Name: Double L Queen Well #: API:
County: Chavez State: NM HWY-MM:
Cause of Release: Oil tank batt. leak Material Released: Oil Amt. Released:
QUAD/UNIT: SEC: TWP: RNG: PM:

Spill Located Approximately: FT. FROM (fixed landmark)
Excavation Approx: FT. X FT. X FT. Volume (cy/tons):
Disposal Facility:
Land Use/Well Status Land Owner:

REGULATORY AGENCY: CLOSURE STDs:
ADDITIONAL CLOSURE REQUIREMENTS:

			TPH			VOC		Chloride	Lab
SAMPLE NAME	TIME COLLECTED	DESCRIPTION (lat/long or location)	TIME	READING	CAL ppm	TIME	PID/OV ppm	mg/kg	Y/N
200/500/1250 Standards	9:20	/200STD/ 181		/	/				
SB22 @ 1'	9:30	Dark Brown	10:36	04	16			590	
SB22 @ 2'	9:32	Dark Brown	10:39	05	20			928	
SB22 @ 4'	9:37	medium Brown						220	
SB23 @ 1'	10:03	Dark Brown	11:00	07	28			<32	
SB23 @ 2'	10:06	Dark Brown	11:05	02	8			38	
SB23 @ 4'	10:12	medium Brown						274	
SB24 @ 1'	10:20	Dark Brown	11:31	02	8			<32	
SB24 @ 2'	10:23	Dark Brown	11:34	01	4			32	
SB24 @ 4'	10:28	Dark/red brown						32	
SB25 @ 1'	10:39	Dark Brown	12:01	01	4			79	
SB25 @ 2'	10:42	medium Brown	12:04	04	16			64	
SB25 @ 4'	10:47	Redish Brown						53	

Notes:

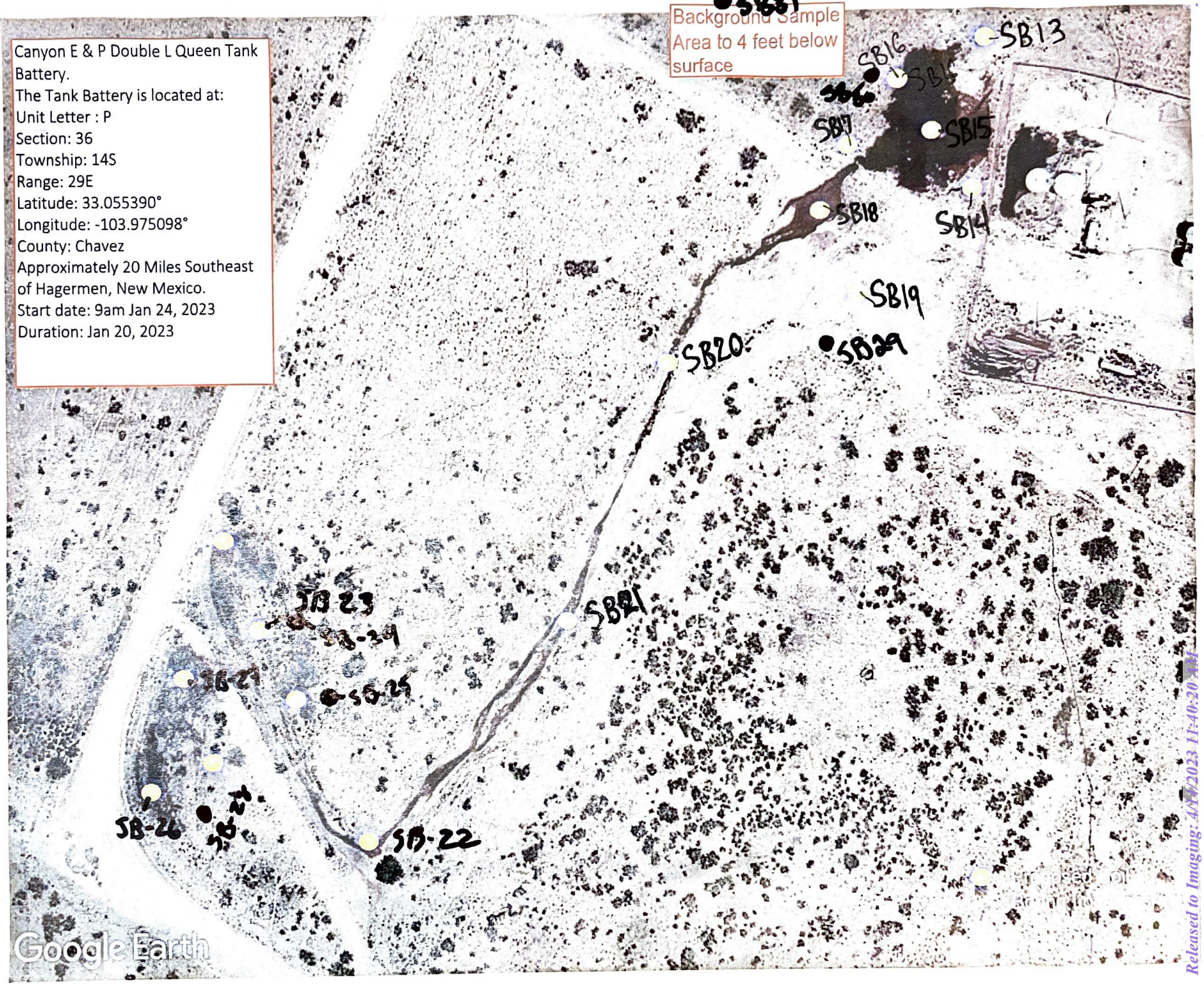
CLIENT: NMOCD	envirotech	Envmtl. Spclst: D. Aragon /	
CLIENT/JOB #: 23002-0002	505-632-0615 | 1-800-362-1879	Site Name: I. Garcia	
DATE: 2-1-2023	5796 US Highway 64	LAT	
Page # 2 of 2	Farmington, NM 87401	LONG	

Field Screening Report

SAMPLE NAME	TIME COLLECTED	DESCRIPTION (lat/long or location)	TPH TIME	TPH READING	TPH CALC. ppm	VOC TIME	VOC PID/OV ppm	Chloride mg/kg	Lab Y/N
SB26 @ 1'	10:56	Light Brown	12:31	209	836			45	
SB26 @ 2'	11:02	Medium Brown	12:34	238	952			<32	
SB26 @ 4'	11:13	Dark Brown	12:37	86	344			<32	
SB27 @ 1'	11:24	Light Brown	13:00	17	68			<32	
SB27 @ 2'	11:26	Medium Brown	13:04	04	16			89	
SB27 @ 4'	11:31	Reddish Brown						<32	
SB28 @ 1'	12:08	Medium Brown	13:58	01	4			45	
SB28 @ 2'	12:11	Medium Brown						160	
SB28 @ 4'	12:13	Reddish Brown						<32	
SB29 @ 1'	12:35	Medium Brown	14:05	01	4			<32	
SB29 @ 2'	12:38	Light Brown						<32	
SB29 @ 4'	12:41	Light Brown						<32	
SB30 @ 1'	12:54	Dark Brown	14:08	11	44			255	
SB30 @ 2'	12:56	Light Brown						2914	
SB30 @ 4'	1301	Light Brown						<32	
SB31 @ 1'	13:07	Dark Brown	14:10	06	24			<32	
SB31 @ 2'	13:09	Light Brown						337	
SB31 @ 4'	13:12	Light Brown							

NOTES: *Include laboratory analysis information*

Revised 6/14/2021



Appendix E

Laboratory Analytical Reports

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0286253

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	ENVIROTECH	Job# / P.O. #:	23002-0002 146555
Address:	5796 HIGHWAY 64-3014	Date Received:	01/31/2023
	FARMINGTON NM 87401	Date Analyzed:	02/07/2023
Collected:	01/27/2023	Date Reported:	02/07/2023
Project Name:	NM OCD/CANYON E & P DOUBLE L	EPA Method:	EPA 600/R-93/116
Address:	QUEEN	Submitted By:	JOHN ALFONSO DE ANDA
		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0286253-001 0-15601		LAYER 1 Floor Tile, Tan	No	None Detected	Carbonates Quartz Binder/Filler	100%
		LAYER 2 Mastic, Yellow	No	None Detected	Cellulose Fiber Carbonates Quartz Binder/Filler	1% 99%
		LAYER 3 Thin Set, Gray	No	None Detected	Cellulose Fiber Quartz Gypsum Carbonates Mica Binder/Filler	<1% 99%
0286253-002 0-15602		LAYER 1 Drywall Ceiling Tile, White/ Brown/ Off White	No	None Detected	Cellulose Fiber Gypsum Carbonates Quartz Mica	12% 88%
		LAYER 2 Popcorn, White	No	None Detected	Carbonates Gypsum Mica Quartz Binder/Filler	 100%
0286253-003 0-15603		Blocking, White	No	None Detected	Synthetic Fiber Gypsum Quartz Carbonates Binder/Filler	15% 85%
0286253-004 0-15604		Separatory Gasket, Red	No	None Detected	Carbonates Quartz Binder/Filler	 100%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0286253

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	ENVIROTECH	Job# / P.O. #:	23002-0002 146555
Address:	5796 HIGHWAY 64-3014	Date Received:	01/31/2023
	FARMINGTON NM 87401	Date Analyzed:	02/07/2023
Collected:	01/27/2023	Date Reported:	02/07/2023
Project Name:	NM OCD/CANYON E & P DOUBLE L	EPA Method:	EPA 600/R-93/116
Address:	QUEEN	Submitted By:	JOHN ALFONSO DE ANDA
		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0286253-005 / 0-15605		Manway Gasket, Black/ Tan	No	None Detected	Carbonates Quartz Binder/Filler	 100%
0286253-006 / 0-15606		Insulation, White/ Tan	No	None Detected	Fibrous Glass Carbonates Quartz Binder/Filler	98% 2%
0286253-007 / 0-15607		Window Caulking, Tan	No	None Detected	Silicone	100%
0286253-008 / 0-15608		Pipe/ Valve Insulation, Brown/ White	No	None Detected	Mineral Wool Cellulose Fiber Gypsum Quartz Carbonates Binder/Filler	33% 2% 65%
0286253-009 / 0-15609		Separatory Gasket, Black/ Tan	No	None Detected	Carbonates Quartz Binder/Filler	 100%

Analyst - Matt Kettler

Signatory - Lab Director - Kurt Kettler

Page _1_ of _1_

CHAIN OF CUSTODY

EMC Laboratories
9830 S. 51ST St., Ste B-109
Phoenix, AZ 85044
(800) 362-3373 Fax (480) 893-1726

LAB#: 286253
TAT: 3 5 Day
Rec'd: JAN 31 P.M.

COMPANY NAME:	ENVIROTECH	BILL TO:	(If Different Location)
	5796 Highway 64-3014		
	Farmington, NM 87401		
CONTACT:	Donald Ortiz	Scan COC	
Phone/Fax:	(505) 632-0615 / 505-632-1865		
Email:	enviroadmin@envirotech-inc.com; dortiz@envirotech-inc.com	jdeanda@envirotech-inc.com	

Now Accepting: VISA – MASTERCARD **Price Quoted:** $_____ / **Sample** $_____ / **Layers**

COMPLETE ITEMS 1-4: (Failure to complete any items may cause a delay in processing or analyzing your samples)

1. TURNAROUND TIME: [Same Day RUSH] [1-Day] [2-Day] [3-Day] [5-Day] [6-10 Day]

****Prior confirmation of turnaround time is required**
****Additional charges for rush analysis (please call marketing department for pricing details)**
****Laboratory analysis may be subject to delay if credit terms are not met**

2. TYPE OF ANALYSIS: [Bulk-PLM] [Air-PCM] [Lead] [Point Count] [Fungi: AOC, W-C, Bulk, Swab, Tape]

3. DISPOSAL INSTRUCTIONS: [Dispose of samples at EMC] [Return samples to me at my expense]
(If you do not indicate preference, EMC will dispose of samples 30 days from analysis.)

4. Project Name: NM OCD / Canyon E&P Double L Queen

P.O. Number: 146555 **Project Number:** 23002-0002

EMC SAMPLE #	CLIENT SAMPLE #	DATE & TIME SAMPLED	LOCATION/MATERIAL TYPE	Samples Accepted Yes / No	AIR SAMPLE INFO / COMMENTS ON	OFF	FLOW RATE
1	0-15601	1/27/2023	1- Floor Tile #1 / Tan	(Y) N			
2	0-15602	1/27/2023	2- Ceiling Tile and Drywall / Popcorn style	Y N			
3	0-15603	1/27/2023	3- Blocking / White	Y N			
4	0-15604	1/27/2023	4 - Sep Gasket North	Y N			
5	0-15605	1/27/2023	5- Manway Gasket	Y N			
6	0-15606	1/27/2023	6- Insulation	Y N			
7	0-15607	1/27/2023	7- Window Caulking	Y N			
8	0-15608	1/27/2023	8- Pipe/ Valve Insulation	Y N			
9	0-15609	1/27/2023	9- Sep Gasket South	(Y) N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			

SPECIAL INSTRUCTIONS:

Sample Collector: (Print) John De Anda (Signature) John De Anda 1220 PM

Relinquished by: John De Anda Date/Time:01/30/2023 08:08 Received by: Diana Federico Date/Time: 1-31-23

Relinquished by: Diana Federico Date/Time: 1-31-23 220 P Received by: Date/Time: 1-31-23 220

Relinquished by: Date/Time Received by: Date/Time:

** In the event of any dispute between the above parties for these services or otherwise, parties agree that jurisdiction and venue will be in Phoenix, Arizona and prevailing party will be entitled to attorney's fees and court costs.Rev. 09/01/08

Page _1_ of _1_

CHAIN OF CUSTODY

EMC Laboratories
9830 S. 51ST St., Ste B-109
Phoenix, AZ 85044
(800) 362-3373 Fax (480) 893-1726

LAB#: L95774
TAT: 3-5 Day
Rec'd: JAN 31 2023

COMPANY NAME:	ENVIROTECH	BILL TO:	(If Different Location)
	5796 Highway 64-3014		
	Farmington, NM 87401		
CONTACT:	Donald Ortiz		Scan COC
Phone/Fax:	(505) 632-0615 / 505-632-1865		
Email:	enviroadmin@envirotech-inc.com; dortiz@envirotech-inc.com		jdeanda@envirotech-inc.com

Now Accepting: VISA – MASTERCARD **Price Quoted:** $_____ / **Sample** $_____ / **Layers**

COMPLETE ITEMS 1-4: (Failure to complete any items may cause a delay in processing or analyzing your samples)

1. TURNAROUND TIME: [Same Day RUSH] [1-Day] [2-Day] [3-Day] [5-Day] [6-10 Day]

****Prior confirmation of turnaround time is required**
****Additional charges for rush analysis (please call marketing department for pricing details)**
****Laboratory analysis may be subject to delay if credit terms are not met**

2. TYPE OF ANALYSIS: [Bulk-PLM] [Air-PCM] [Lead] [Point Count] [Fungi: AOC, W-C, Bulk, Swab, Tape]

3. DISPOSAL INSTRUCTIONS: [Dispose of samples at EMC] / [Return samples to me at my expense]
(If you do not indicate preference, EMC will dispose of samples 30 days from analysis.)

4. Project Name: NM OCD / Canyon E&P Double L Queen

P.O. Number: 146555 **Project Number:** 23002-0002

EMC SAMPLE #	CLIENT SAMPLE #	DATE & TIME SAMPLED	LOCATION/MATERIAL TYPE	Samples Accepted Yes / No	AIR SAMPLE INFO / COMMENTS ON	OFF	FLOW RATE
1	0-15610	1/27/2023	1- Hall Paint/ Tan	Y N			
2	0-15611	1/27/2023	2- Office Paint / White	Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			

SPECIAL INSTRUCTIONS:

Sample Collector: (Print) John De Anda (Signature) John De Anda

Relinquished by: John De Anda Date/Time: 01/30/2023 08:28 Received by: WB Date/Time: 1/31/23 12:15

Relinquished by: WB Date/Time: 1/31/23 12:43 Received by: Date/Time: 1/31/23 1243

Relinquished by: Date/Time Received by: Date/Time:

** In the event of any dispute between the above parties for these services or otherwise, parties agree that jurisdiction and venue will be in Phoenix, Arizona and prevailing party will be entitled to attorney's fees and court costs.Rev. 09/01/08

EMC LABS, INC.

9830 South 51st Street, Suite B-109 / PHOENIX, ARIZONA 85044 / 480-940-5294 or 800-362-3373 / FAX 480-893-1726
emclab@emclabs.com

LEAD (Pb) IN PAINT CHIP SAMPLES

EMC SOP METHOD #L01/1 EPA SW-846 METHOD 7420

EMC LAB #:	L95774	**DATE RECEIVED:**	1/31/23
CLIENT:	Envirotech	**REPORT DATE:**	2/3/23
		DATE OF ANALYSIS:	2/1/23
CLIENT ADDRESS:	5796 US Hwy 64 Farmington, NM 87401	**P.O. NO.:**	146555
PROJECT NAME:	NM OCD / Canyon E&P Double L Queen	**PROJECT NO.:**	23002-0002

EMC # L95774-	SAMPLE DATE /23	CLIENT SAMPLE #	DESCRIPTION	REPORTING LIMIT (%Pb by weight)	%Pb BY WEIGHT
1	1/27	0-15610	1-Hall Paint / Tan	0.010	BRL
2	1/27	0-15611	2-Office Paint / White	0.013	BRL

^ = Dilution Factor Changed ***** = Excessive Substrate May Bias Sample Results **BRL** = Below Reportable Limits **#** = Very Small Amount Of Sample Submitted, May Affect Result

This report applies to the standards or procedures identified and to the samples tested only. The test results are not necessarily indicative or representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products, nor do they represent an ongoing quality assurance program unless so noted. Unless otherwise noted, all quality control analyses for the samples noted above were within acceptable limits.

Where it is noted that a sample with excessive substrate was submitted for laboratory analysis, such analysis may be biased. The lead content of such sample may, in actuality, be greater than reported. EMC makes no warranty, express or implied, as to the accuracy of the analysis of samples noted to have been submitted with excessive substrate. Resampling is recommended in such situations to verify original laboratory results. EMC Labs, Inc. (ID 101586) is accredited by the AIHA Laboratory Accreditation Programs, LLC (AIHA-LAP, LLC) in the Environmental Lead accreditation program(s) for Paint, Settled Dust by Wipe, Soil and Airborne Dust Fields of Testing as documented by the Scope of Accreditation Certificate and associated Scope. AIHA-LAP, LLC accreditation complies with the ISO/IEC Standard 17025**:2017** requirements. The customer provides the Project number, name, address, sampling date, identification, and description. EMC Labs, Inc. is an EPA Recognized Testing Lab.

These reports are for the exclusive use of the addressed client and are rendered upon the condition that they will not be reproduced wholly or in part for advertising or other purposes over our signature or in connection with our name without special written permission. Samples not destroyed in testing are retained a maximum of sixty (60) days.

ANALYST: Jason Thompson

QA COORDINATOR: Kurt Kettler

Ver. 11/30/08 Revision 08/14/2021

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

February 10, 2023

Greg Crabtree

Envirotech
5796 US Highway 64
Farmington, NM 87401
TEL: (505) 632-0615
FAX (505) 632-1865

RE: Double L Queen OrderNo.: 2301A30

Dear Greg Crabtree:

Hall Environmental Analysis Laboratory received 5 sample(s) on 1/27/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2301A30**
Date Reported: **2/10/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Envirotech
Client Sample ID: SB1@2'
Project: Double L Queen
Collection Date: 1/24/2023 10:22:00 AM
Lab ID: 2301A30-001 **Matrix:** SOIL **Received Date:** 1/27/2023 7:25:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	200	59		mg/Kg	20	2/1/2023 1:24:30 PM	72929
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/31/2023 3:24:47 PM	72876
Surr: BFB	115	70-130		%Rec	1	1/31/2023 3:24:47 PM	72876
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**	
Diesel Range Organics (DRO)	1900	470		mg/Kg	50	1/31/2023 4:18:35 PM	72892
Motor Oil Range Organics (MRO)	3100	2400		mg/Kg	50	1/31/2023 4:18:35 PM	72892
Surr: DNOP	0	69-147	S	%Rec	50	1/31/2023 4:18:35 PM	72892
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	1/31/2023 3:24:47 PM	72876
Toluene	ND	0.048		mg/Kg	1	1/31/2023 3:24:47 PM	72876
Ethylbenzene	ND	0.048		mg/Kg	1	1/31/2023 3:24:47 PM	72876
Xylenes, Total	ND	0.096		mg/Kg	1	1/31/2023 3:24:47 PM	72876
Surr: 1,2-Dichloroethane-d4	115	70-130		%Rec	1	1/31/2023 3:24:47 PM	72876
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	1/31/2023 3:24:47 PM	72876
Surr: Dibromofluoromethane	109	70-130		%Rec	1	1/31/2023 3:24:47 PM	72876
Surr: Toluene-d8	103	70-130		%Rec	1	1/31/2023 3:24:47 PM	72876

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

Qualifiers:

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

Analytical Report
Lab Order **2301A30**
Date Reported: **2/10/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Envirotech
Client Sample ID: SB2@1'
Project: Double L Queen
Collection Date: 1/24/2023 10:40:00 AM
Lab ID: 2301A30-002 **Matrix:** SOIL **Received Date:** 1/27/2023 7:25:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	2/1/2023 1:36:54 PM	72929
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	4.9	4.8		mg/Kg	1	1/31/2023 3:52:04 PM	72876
Surr: BFB	119	70-130		%Rec	1	1/31/2023 3:52:04 PM	72876
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**	
Diesel Range Organics (DRO)	820	99		mg/Kg	10	2/1/2023 1:02:42 PM	72892
Motor Oil Range Organics (MRO)	580	500		mg/Kg	10	2/1/2023 1:02:42 PM	72892
Surr: DNOP	0	69-147	S	%Rec	10	2/1/2023 1:02:42 PM	72892
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	1/31/2023 3:52:04 PM	72876
Toluene	ND	0.048		mg/Kg	1	1/31/2023 3:52:04 PM	72876
Ethylbenzene	ND	0.048		mg/Kg	1	1/31/2023 3:52:04 PM	72876
Xylenes, Total	ND	0.096		mg/Kg	1	1/31/2023 3:52:04 PM	72876
Surr: 1,2-Dichloroethane-d4	124	70-130		%Rec	1	1/31/2023 3:52:04 PM	72876
Surr: 4-Bromofluorobenzene	125	70-130		%Rec	1	1/31/2023 3:52:04 PM	72876
Surr: Dibromofluoromethane	111	70-130		%Rec	1	1/31/2023 3:52:04 PM	72876
Surr: Toluene-d8	103	70-130		%Rec	1	1/31/2023 3:52:04 PM	72876

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

Qualifiers:

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

Analytical Report
Lab Order **2301A30**
Date Reported: **2/10/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Envirotech
Client Sample ID: SB7@1'
Project: Double L Queen
Collection Date: 1/24/2023 1:40:00 PM
Lab ID: 2301A30-003 **Matrix:** SOIL **Received Date:** 1/27/2023 7:25:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **NAI**	
Chloride	3900	150		mg/Kg	50	2/2/2023 8:48:31 AM	72929
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/31/2023 4:19:19 PM	72876
Surr: BFB	122	70-130		%Rec	1	1/31/2023 4:19:19 PM	72876
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**	
Diesel Range Organics (DRO)	3000	490		mg/Kg	50	1/31/2023 5:21:55 PM	72892
Motor Oil Range Organics (MRO)	3400	2400		mg/Kg	50	1/31/2023 5:21:55 PM	72892
Surr: DNOP	0	69-147	S	%Rec	50	1/31/2023 5:21:55 PM	72892
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	1/31/2023 4:19:19 PM	72876
Toluene	0.054	0.048		mg/Kg	1	1/31/2023 4:19:19 PM	72876
Ethylbenzene	ND	0.048		mg/Kg	1	1/31/2023 4:19:19 PM	72876
Xylenes, Total	ND	0.097		mg/Kg	1	1/31/2023 4:19:19 PM	72876
Surr: 1,2-Dichloroethane-d4	118	70-130		%Rec	1	1/31/2023 4:19:19 PM	72876
Surr: 4-Bromofluorobenzene	119	70-130		%Rec	1	1/31/2023 4:19:19 PM	72876
Surr: Dibromofluoromethane	104	70-130		%Rec	1	1/31/2023 4:19:19 PM	72876
Surr: Toluene-d8	109	70-130		%Rec	1	1/31/2023 4:19:19 PM	72876

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

Qualifiers:

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

Analytical Report
Lab Order **2301A30**
Date Reported: **2/10/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Envirotech
Client Sample ID: SB12@1'
Project: Double L Queen
Collection Date: 1/25/2023 10:10:00 AM
Lab ID: 2301A30-004 **Matrix:** SOIL **Received Date:** 1/27/2023 7:25:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **NAI**	
Chloride	6400	600		mg/Kg	200	2/2/2023 9:00:56 AM	72929
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	46	9.8		mg/Kg	2	1/31/2023 4:46:32 PM	72876
Surr: BFB	137	70-130	S	%Rec	2	1/31/2023 4:46:32 PM	72876
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**	
Diesel Range Organics (DRO)	5300	430		mg/Kg	50	1/31/2023 6:03:56 PM	72892
Motor Oil Range Organics (MRO)	4800	2100		mg/Kg	50	1/31/2023 6:03:56 PM	72892
Surr: DNOP	0	69-147	S	%Rec	50	1/31/2023 6:03:56 PM	72892
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.049		mg/Kg	2	1/31/2023 4:46:32 PM	72876
Toluene	ND	0.098		mg/Kg	2	1/31/2023 4:46:32 PM	72876
Ethylbenzene	ND	0.098		mg/Kg	2	1/31/2023 4:46:32 PM	72876
Xylenes, Total	ND	0.20		mg/Kg	2	1/31/2023 4:46:32 PM	72876
Surr: 1,2-Dichloroethane-d4	123	70-130		%Rec	2	1/31/2023 4:46:32 PM	72876
Surr: 4-Bromofluorobenzene	137	70-130	S	%Rec	2	1/31/2023 4:46:32 PM	72876
Surr: Dibromofluoromethane	110	70-130		%Rec	2	1/31/2023 4:46:32 PM	72876
Surr: Toluene-d8	109	70-130		%Rec	2	1/31/2023 4:46:32 PM	72876

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

Qualifiers:

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

Analytical Report
Lab Order **2301A30**
Date Reported: **2/10/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Envirotech
Project: Double L Queen
Lab ID: 2301A30-005 **Matrix:** SOIL

Client Sample ID: Surface @ Fenceline
Collection Date: 1/25/2023 3:30:00 PM
Received Date: 1/27/2023 7:25:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	92	60		mg/Kg	20	2/1/2023 2:14:09 PM	72929
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	1/31/2023 5:13:39 PM	72876
Surr: BFB	118	70-130		%Rec	1	1/31/2023 5:13:39 PM	72876
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**	
Diesel Range Organics (DRO)	4900	440		mg/Kg	50	1/31/2023 6:45:37 PM	72892
Motor Oil Range Organics (MRO)	6900	2200		mg/Kg	50	1/31/2023 6:45:37 PM	72892
Surr: DNOP	0	69-147	S	%Rec	50	1/31/2023 6:45:37 PM	72892
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	0.024		mg/Kg	1	1/31/2023 5:13:39 PM	72876
Toluene	ND	0.047		mg/Kg	1	1/31/2023 5:13:39 PM	72876
Ethylbenzene	ND	0.047		mg/Kg	1	1/31/2023 5:13:39 PM	72876
Xylenes, Total	ND	0.094		mg/Kg	1	1/31/2023 5:13:39 PM	72876
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	1/31/2023 5:13:39 PM	72876
Surr: 4-Bromofluorobenzene	116	70-130		%Rec	1	1/31/2023 5:13:39 PM	72876
Surr: Dibromofluoromethane	97.9	70-130		%Rec	1	1/31/2023 5:13:39 PM	72876
Surr: Toluene-d8	111	70-130		%Rec	1	1/31/2023 5:13:39 PM	72876

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301A30**

10-Feb-23

Client: Envirotech

Project: Double L Queen

Sample ID: **MB-72929**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **72929**	RunNo: **94346**							
Prep Date: **2/1/2023**	Analysis Date: **2/1/2023**	SeqNo: **3408160**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-72929**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **72929**	RunNo: **94346**							
Prep Date: **2/1/2023**	Analysis Date: **2/1/2023**	SeqNo: **3408161**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	99.3	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301A30**

10-Feb-23

Client: Envirotech

Project: Double L Queen

Sample ID: **LCS-72892**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **72892**	RunNo: **94303**							
Prep Date: **1/30/2023**	Analysis Date: **1/31/2023**	SeqNo: **3406296**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	88.2	61.9	130			
Surr: DNOP	5.1		5.000		101	69	147			

Sample ID: **MB-72892**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **72892**	RunNo: **94303**							
Prep Date: **1/30/2023**	Analysis Date: **1/31/2023**	SeqNo: **3406299**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.8		10.00		98.3	69	147			

Sample ID: **LCS-72953**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **72953**	RunNo: **94358**							
Prep Date: **2/1/2023**	Analysis Date: **2/2/2023**	SeqNo: **3408810**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.1		5.000		102	69	147			

Sample ID: **MB-72953**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **72953**	RunNo: **94358**							
Prep Date: **2/1/2023**	Analysis Date: **2/2/2023**	SeqNo: **3408815**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.9		10.00		98.8	69	147			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2301A30**
10-Feb-23

Client: Envirotech
Project: Double L Queen

Sample ID: **LCS-72876** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **72876** RunNo: **94292**
Prep Date: **1/27/2023** Analysis Date: **1/30/2023** SeqNo: **3405799** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.7	80	120			
Toluene	0.96	0.050	1.000	0	96.0	80	120			
Ethylbenzene	0.98	0.050	1.000	0	98.2	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 1,2-Dichloroethane-d4	0.59		0.5000		117	70	130			
Surr: 4-Bromofluorobenzene	0.54		0.5000		109	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		107	70	130			
Surr: Toluene-d8	0.52		0.5000		104	70	130			

Sample ID: **mb-72876** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **72876** RunNo: **94292**
Prep Date: **1/27/2023** Analysis Date: **1/30/2023** SeqNo: **3405800** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.60		0.5000		119	70	130			
Surr: 4-Bromofluorobenzene	0.54		0.5000		109	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: Toluene-d8	0.51		0.5000		103	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2301A30**

10-Feb-23

Client: Envirotech

Project: Double L Queen

Sample ID: **LCS-72876**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **72876**	RunNo: **94292**
Prep Date: **1/27/2023**	Analysis Date: **1/30/2023**	SeqNo: **3405775** 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	70	130			
Surr: BFB	580		500.0		116	70	130			

Sample ID: **mb-72876**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **72876**	RunNo: **94292**
Prep Date: **1/27/2023**	Analysis Date: **1/30/2023**	SeqNo: **3405776** 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	520		500.0		103	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Envirotech | Work Order Number: 2301A30 | RcptNo: 1

Received By: Juan Rojas 1/27/2023 7:25:00 PM

Completed By: Tracy Casarrubias 1/27/2023 7:52:51 AM

Reviewed By: KPA 1.27.23

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: JN 1/27/23

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.1	Good	Yes	Yogi		
2	0.5	Good	Yes	Yogi		

Chain-of-Custody Record

Client: NMOCD - Envirotech

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☑ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☒ Rush 5 Day

Project Name: Double L Queen

Project #: 23002-0002

Project Manager: Greg Crabtree

Sampler: Austin Foutz, Greg Crabtree

On Ice: ☐ Yes ☐ No

# of Coolers: 2 Yogi

Cooler Temp(including CF): 0.8-0.3=0.5 (°C) 0.4-0.3=0.1

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. 2301A36	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) BTEX	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Chlorides
1/24/23	10:22	S	SB1@2'	4oz 1		001		X						X			X
1/24/23	10:40	S	SB2@1'	4oz 2		002											
1/24/23	13:40	S	SB7@1'	4oz 3		003											
1/25/23	10:10	S	SB12@1	4oz 4		004											
1/25/23	15:30	S	Surface @ Fenceline	4oz 5		005											

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
1-26-23	8:39	Austin Foutz			1/26/23	839
1/26/23	1910			Courier	1/27/23	7:25

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.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

February 14, 2023

Greg Crabtree

Envirotech
5796 US Highway 64
Farmington, NM 87401
TEL: (505) 632-0615
FAX: (505) 632-1865

RE: Double L Queen OrderNo.: 2302212

Dear Greg Crabtree:

Hall Environmental Analysis Laboratory received 1 sample(s) on 2/4/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2302212**
Date Reported: **2/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Envirotech
Client Sample ID: Stock Pond
Project: Double L Queen
Collection Date: 2/1/2023 2:00:00 PM
Lab ID: 2302212-001 **Matrix:** AQUEOUS **Received Date:** 2/4/2023 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	2/8/2023 6:32:56 PM	73073
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	2/8/2023 6:32:56 PM	73073
Surr: DNOP	101	54.5-177		%Rec	1	2/8/2023 6:32:56 PM	73073
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	2/6/2023 3:48:00 PM	GW9442
Surr: BFB	98.2	70-130		%Rec	1	2/6/2023 3:48:00 PM	GW9442
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	2/8/2023 8:44:00 PM	SL94478
Toluene	ND	1.0		µg/L	1	2/8/2023 8:44:00 PM	SL94478
Ethylbenzene	ND	1.0		µg/L	1	2/8/2023 8:44:00 PM	SL94478
Xylenes, Total	ND	1.5		µg/L	1	2/8/2023 8:44:00 PM	SL94478
Surr: 1,2-Dichloroethane-d4	123	70-130		%Rec	1	2/8/2023 8:44:00 PM	SL94478
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	2/8/2023 8:44:00 PM	SL94478
Surr: Dibromofluoromethane	125	70-130		%Rec	1	2/8/2023 8:44:00 PM	SL94478
Surr: Toluene-d8	95.9	70-130		%Rec	1	2/8/2023 8:44:00 PM	SL94478

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2302212**

14-Feb-23

Client: Envirotech

Project: Double L Queen

Sample ID: **MB-73073**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **73073**	RunNo: **94473**
Prep Date: **2/8/2023**	Analysis Date: **2/8/2023**	SeqNo: **3414131** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.51		0.5000		101	54.5	177			

Sample ID: **LCS-73073**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **73073**	RunNo: **94473**
Prep Date: **2/8/2023**	Analysis Date: **2/8/2023**	SeqNo: **3414140** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.5	1.0	2.500	0	101	68.4	146			
Surr: DNOP	0.27		0.2500		109	54.5	177			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2302212**

14-Feb-23

Client: Envirotech

Project: Double L Queen

Sample ID: **2.5ng gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **GW94426**	RunNo: **94426**
Prep Date:	Analysis Date: **2/6/2023**	SeqNo: **3412584** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.59	0.050	0.5000	0	118	70	130			
Surr: BFB	25		20.00		124	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **GW94426**	RunNo: **94426**
Prep Date:	Analysis Date: **2/6/2023**	SeqNo: **3412585** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	21		20.00		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 standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2302212**

14-Feb-23

Client: Envirotech

Project: Double L Queen

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SL94478**	RunNo: **94478**
Prep Date:	Analysis Date: **2/8/2023**	SeqNo: **3414248** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	25	1.0	20.00	0	127	70	130			
Toluene	22	1.0	20.00	0	111	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		112	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	11		10.00		110	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL94478**	RunNo: **94478**
Prep Date:	Analysis Date: **2/8/2023**	SeqNo: **3414249** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	12		10.00		117	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	12		10.00		117	70	130			
Surr: Toluene-d8	9.7		10.00		96.8	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: NMOCD District II | Work Order Number: 2302212 | RcptNo: 1

Received By: Cheyenne Cason 2/4/2023 7:50:00 AM

Completed By: Cheyenne Cason 2/4/2023 10:40:24 AM

Reviewed By: JR 2-6-23

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☑	No ☐	NA ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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: JR 2/6/23

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

Client Information incomplete CMC 2/4/23

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Yes	Morty		

Project Information

Chain of Custody

Page 1 of 1

Client:	NMOCD
Project:	Double L Queen
Project Manager:	Greg Crabtree
Address:	
City, State, Zip	
Phone:	
Email:	I. Garcia B. Hall G. Crabtree T. Knight
Report due by:	

Bill To

Attention:	
Address:	
City, State, Zip	
Phone:	
Email:	

Lab Use Only

Lab WO#	Job Number
E	23002-002

TAT				EPA Program		
1D	2D	3D	Standard	CWA	SDWA	RCRA
			x			x

State				
NM	CO	UT	AZ	TX
x				

Analysis and Method

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	DRO,GRO,ORO by 8015	BTEX by 8021	Chloride 300.0	BTEX 8260	Metals 6010	Full TCLP w/o H&P	Semi-Volitiles 8270	RCI	PCB's				Remarks
14:00	2/1/23	A	7	Stock pond 2302212	001	x			x									

x

x

date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Isaac Garcia

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	2/3/23	1322 ~~8:40~~	[signature]	2/3/23	1322
[signature]	2/3/23	1706	[signature] COU ✓	2/4/23	0750

Lab Use Only

Received on ice: (Y) / N

T1 1.8-0=1.8 T2 ______ T3 ______

AVG Temp °C ______ Marty

Sample Matrix: **S** - Soil, **Sd** - Solid, **Sg** - Sludge, **A** - Aqueous, **O** - Other ______

Container Type: **g** - glass, **p** - poly/plastic, **ag** - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

envirotech

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 207904

CONDITIONS

Operator: CANYON E & P COMPANY 251 O'Connor Ridge Blvd. Irving, TX 75038	OGRID: 269864
	Action Number: 207904
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Work Plan	4/14/2023