Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2227253809
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	167.0 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☑ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☑ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☑ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☑ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☑ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☑ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☑ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☑ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☑ No

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

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

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

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

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State of New Mexico
Oil Conservation Division

Incident ID	nAPP2227253809
District RP	
Facility ID	
Application ID	

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

Printed Name: Risa Czarnikow Title: Production Tech

Signature: Risa Czarnikow Date: 3-29-23

email: rczarnikow@helmsoil.com Telephone: (432) 688-3727

OCD Only

Received by: Jocelyn Harimon Date: 03/30/2023

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State of New Mexico
Oil Conservation Division

Incident ID	nAPP2227253809
District RP	
Facility ID	
Application ID	

Closure

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

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

☑ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☑ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☑ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☑ Description of remediation activities

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

Printed Name: ~~Risa~~ Risa Czarnikow Title: Production Tech

Signature: Risa Czarnikow Date: 3-29-23

email: rczarnikow@helmsoil.com Telephone: (432) 688-3727

OCD Only

Received by: Jocelyn Harimon Date: 03/30/2023

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

Closure Approved by: Jennifer Nobui Date: 05/08/2023

Printed Name: Jennifer Nobui Title: Environmental Specialist A

Amended Remediation Summary and Soil Closure Request

H.L. Brown Operating, LLC
Federal D 001
Roosevelt County, New Mexico
Unit Letter A, Section 5, Township 8 South, Range 37 East
Latitude 33.640356 North, Longitude 103.159261 West
NMOCD Reference No. nAPP2227253809

Prepared By:

Etech Environmental & Safety Solutions, Inc.
2617 W. Marland
Hobbs, New Mexico 88240

Zach Conder

Ben J .Arguijo

ETECH Environmental & Safety Solutions, Inc.

Midland • San Antonio • Lubbock • Hobbs • Lafayette

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1.0 PROJECT INFORMATION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of H.L. Brown Operating, LLC, has prepared this Remediation Summary and Soil Closure Request for the release site known as the Federal D 001 (henceforth, "Site"). Details of the release are summarized below:

Location of Release Source

Latitude: 33.640356 Longitude: -103.159261

Provided GPS are in WGS84 format.

Site Name:	Federal D 001	Site Type:	Well Head
Date Release Discovered:	9/7/2022	API # (if applicable):	30-041-20403

Unit Letter	Section	Township	Range	County
C	9	8S	37E	Roosevelt

Surface Owner: [ ] State [ ] Federal [ ] Tribal [X] Private (Name Weaver James and Christine Trust)

Nature and Volume of Release

[X] Crude Oil	Volume Released (bbls) 5 bbls	Volume Recovered (bbls) 0 bbls
[ ] Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water > 10,000 mg/L?	[ ] Yes [ ] No [X] N/A
[ ] Condensate	Volume Released (bbls)	Volume Recovered (bbls)
[ ] Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
[ ] Other (describe)	Volume/Weight Released	Volume/Weight Recovered

Cause of Release:
Unknown historic release found during site inspection.

Initial Response

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

Previously submitted portions of the NMOCD Form C-141 are available on the NMOCD Imaging System.

2.0 SITE CHARACTERIZATION

A search of groundwater databases maintained by the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey (USGS) was conducted in an effort to determine the horizontal distance to known water sources within a half-mile radius of the Site. Probable groundwater depth was determined using data generated by numeric models based on available water well data and published information. Depth to groundwater information is provided as Appendix A.

What is the shallowest depth to groundwater beneath the area affected by the release?	167 Feet
Did the release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of any occupied permanent residence, school, hospital, institution or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within the incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas not on an exploration, development, production or storage site?	☐ Yes ☒ No

NMOCD Siting Criteria data was gathered from available resources including Bureau of Land Management (BLM) shapefiles; topographic maps; NMOSE and USGS databases; and aerial imagery. The results are depicted on Figures 1, 2, 4, and 5.

3.0 CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE

Based on the volume and nature of the release, inferred depth to groundwater, and NMOCD Siting Criteria, the NMOCD Closure Criteria and NMOCD Reclamation Standard for the Site are as follows:

Probable Depth to Groundwater	Constituent	Method	Closure Criteria	Reclamation Standard*
167 Feet	Chloride	EPA 300.0 or SM4500 Cl B	20,000 mg/kg	600 mg/kg
	TPH (GRO + DRO + MRO)	EPA SW-846 Method 8015M Ext	2,500 mg/kg	100 mg/kg
	DRO + GRO	EPA SW-846 Method 8015M	1,000 mg/kg	-
	BTEX	EPA SW-846 Methods 8021b or 8260b	50 mg/kg	50 mg/kg
	Benzene	EPA SW-846 Methods 8021b or 8260b	10 mg/kg	10 mg/kg

* The NMOCD Reclamation Standard applies only to the top 4' of soil in non-production areas.

4.0 REMEDIATION ACTIVITIES SUMMARY

On November 2, 2022, remediation activities commenced at the Site. In accordance with the NMOCD, impacted soil affected above the NMOCD Closure Criteria was excavated and stockpiled on-site, pending transfer to an NMOCD-approved surface waste facility for disposal. The floor and sidewalls of the excavation were advanced until field observations and test results suggested BTEX, TPH, and chloride concentrations were below the NMOCD Closure Criteria.

Upon excavating impacted soil affected above the NMOCD Closure Criteria, Etech collected five (5) confirmation soil samples (FL 1 @ 1', EW 1, NW 1, SW 1 and WW 1). The collected soil samples were submitted to a certified, commercial laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the NMOCD Closure Criteria in all of the submitted soil samples.

In addition, Etech collected four (4) horizontal delineation soil samples (NH 1 @ 1', EH 1 @ 1', SH 1 @ 1' and WH 1 @ 1') representative of each cardinal direction in an effort to further characterize the horizontal extent of the release. The collected soil samples were submitted to a certified, commercial laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the NMOCD Closure Criteria and NMOCD Reclamation standards in all of the submitted soil samples.

A site and sample location map is provided as Figure 3. A soil chemistry table is provided as Table 1. Field data and soil profile logs are provided as Appendix B. Laboratory analytical reports are provided as Appendix C.

The final dimensions of the excavated area were approximately thirteen (13) feet in length, eleven (11) feet in width, and one (1) foot in depth. During the course of remediation activities, approximately twenty (20) cubic yards of impacted soil were transported to an NMOCD-approved surface waste facility for disposal.

5.0 RESTORATION, RECLAMATION, AND RE-VEGETATION PLAN

Upon receiving laboratory analytical results from confirmation soil samples, excavated areas were backfilled with locally sourced, non-impacted "like" material placed at or near original relative positions. The affected area was compacted and contoured to achieve erosion control, stability, and preservation of surface water flow, to the extent practicable. Affected areas not on production pads and/or lease roads will be reseeded with an agency and/or landowner-approved seed mixture free of noxious weeds during the first favorable growing season following closure of the Site.

6.0 SOIL CLOSURE REQUEST

Remediation activities were conducted in accordance with applicable NMOCD regulations. Impacted soil affected above the NMOCD Closure Criteria and/or NMOCD Reclamation Standards was excavated and transported to an NMOCD-approved disposal facility. Laboratory analytical results from confirmation soil samples indicate concentrations of BTEX, TPH, and chloride are below the NMOCD Closure Criteria and/or NMOCD Reclamation Standards.

Based on laboratory analytical results and field activities conducted to date, Etech recommends H.L. Brown Operating, LLC, provide copies of this Remediation Summary and Soil Closure Request to the appropriate agencies and request closure be granted to the Federal D 001 Site.

7.0 LIMITATIONS

Etech Environmental & Safety Solutions, Inc., has prepared this Remediation Summary and Soil Closure Request to the best of its ability. No other warranty, expressed or implied, is made or intended. Etech has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Etech has not conducted an independent examination of the facts contained in referenced materials and statements. Etech has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Etech has prepared the report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Etech notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of H.L. Brown Operating, LLC. Use of the information contained in this report is prohibited without the consent of Etech and/or H.L. Brown Operating, LLC.

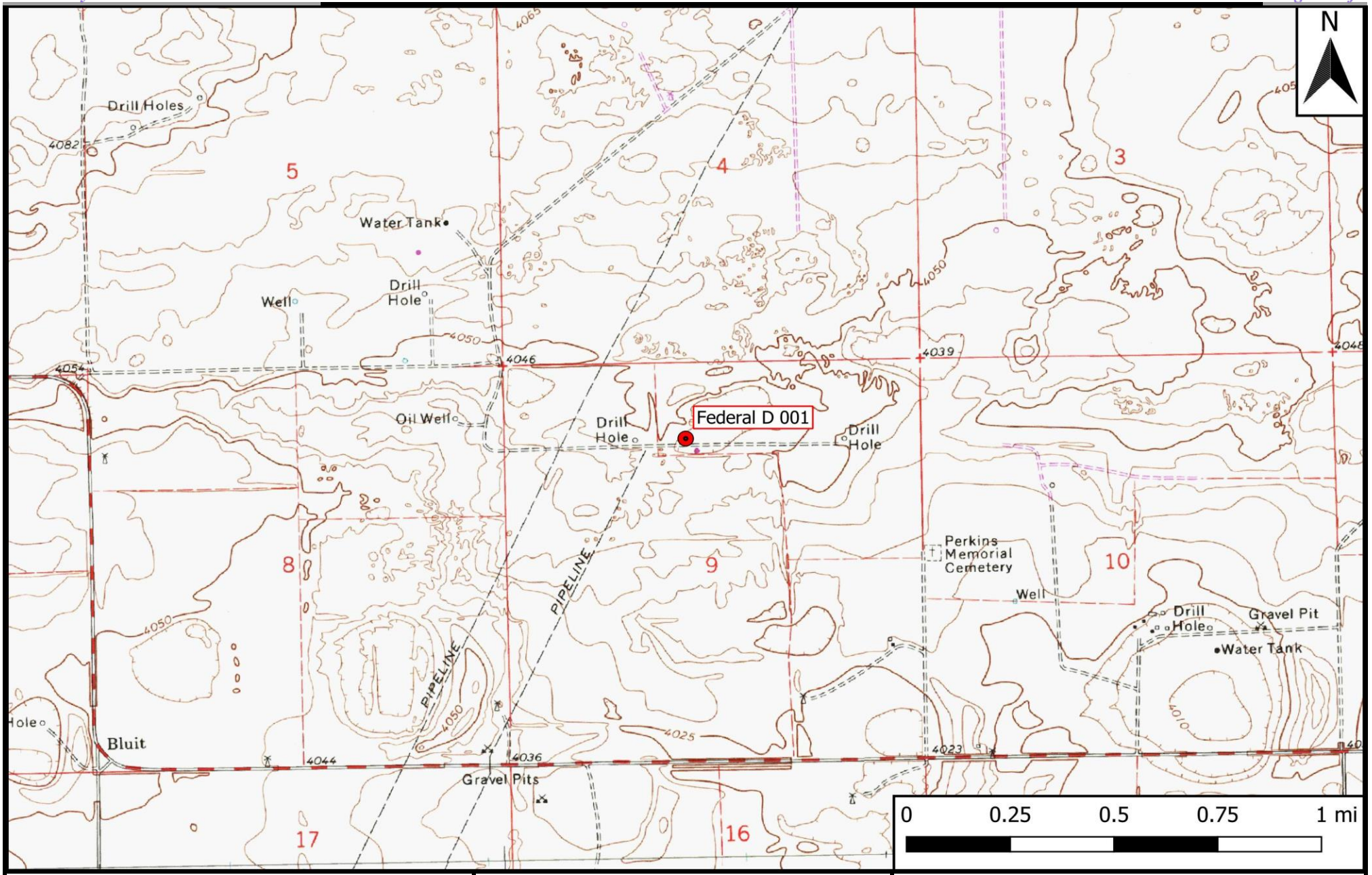
8.0 DISTRIBUTION

H.L. Brown Operating, LLC
300 West Louisiana
Midland, TX 79702-2237

New Mexico Energy, Minerals and Nature Resources Department
Oil Conservation Division, District 1
1220 South St. Francis Drive
Santa Fe, NM 87505

(Electronic Submission)

Figure 1
Topographic Map



Legend

- Site Location

Figure 1

Topographic Map

H. L. Brown Operating LLC

Federal D 001

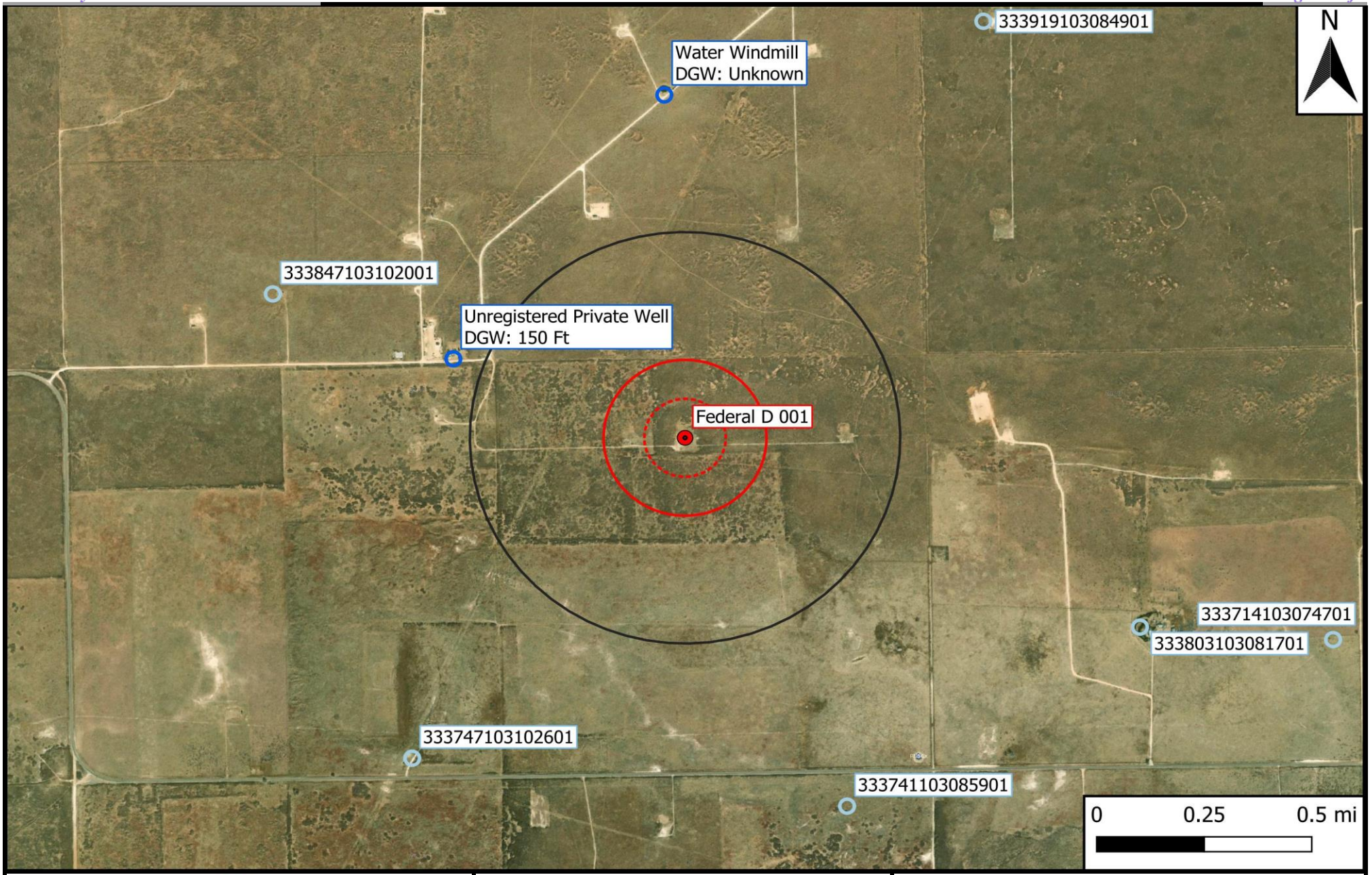
GPS: 33.640356, -103.159261

Roosevelt County

ETECH Environmental & Safety Solutions, Inc.

Drafted: mag Checked: jk Date: 10/13/22

Figure 2
Aerial Proximity Map



Legend

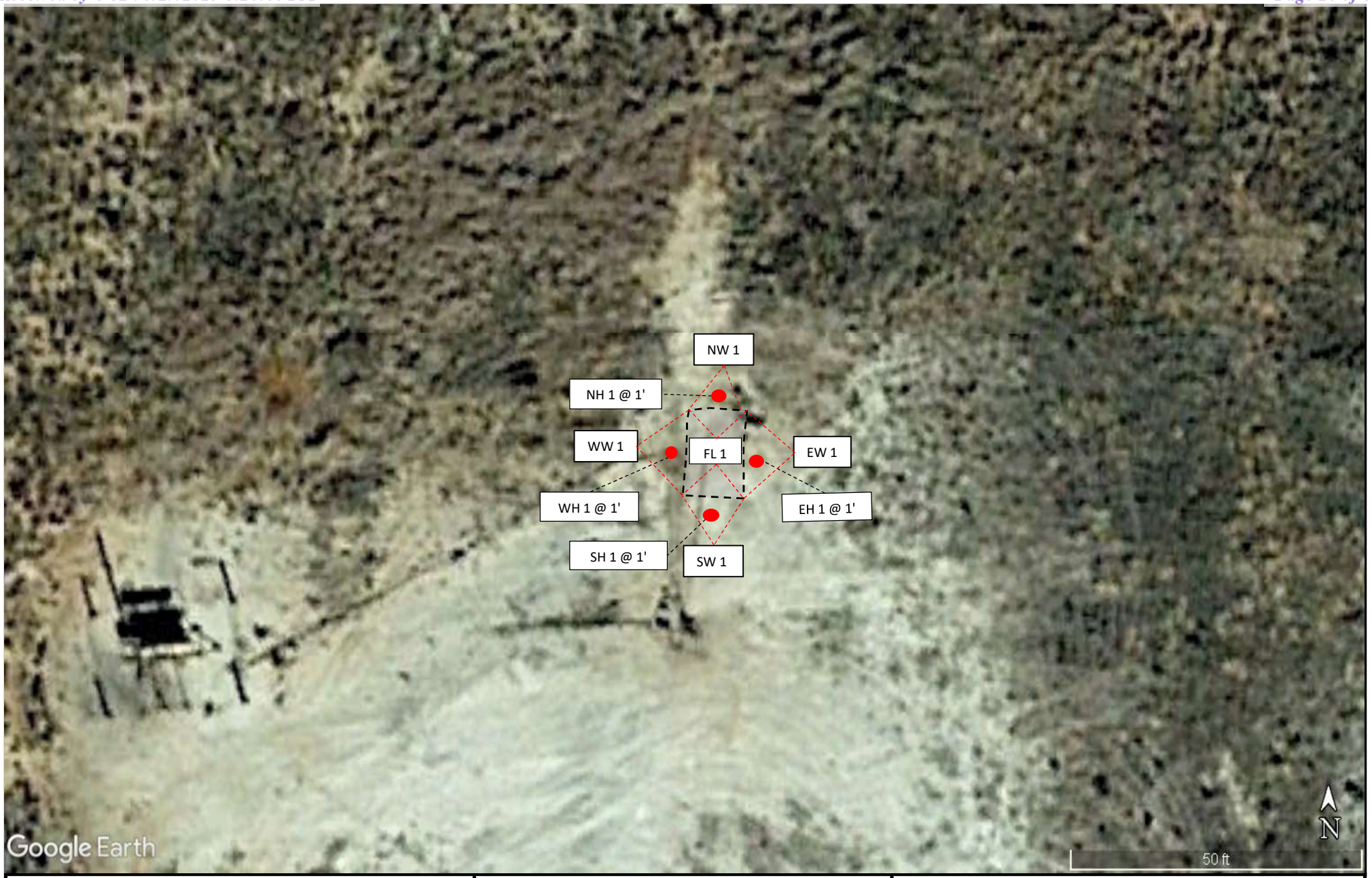
- Site Location
- Well - NMOSE
- Well - USGS
- Potash Mine Workings
- Medium/High Karst
- 500 Ft Radius
- 1000 Ft Radius
- 0.5 Mi Radius
- 1% Annual Flood Chance
- Lake/Freshwater Pond
- Emergent/Forested Wetlands
- Riverine

Figure 2
Aerial Proximity Map
H.L. Brown Operating, LLC
Federal D 001
GPS: 33.640356, -103.159261
Roosevelt County

eTECH Environmental & Safety Solutions, Inc.

Drafted: mag Checked: jk Date: 12/15/22

Figure 3
Site and Sample Location Map



Legend:

- Confirmation Sample Location
- Horizontal Delineation Sample Point
- Excavated Area

Figure 3

Site and Sample Location Map

H.L. Brown Operating, LLC

Federal D 001

GPS: 33.640356, -103.159261

Roosevelt County

eTECH Environmental & Safety Solutions, Inc.

Drafted: ZPC Checked: JWL Date: 12/14/22

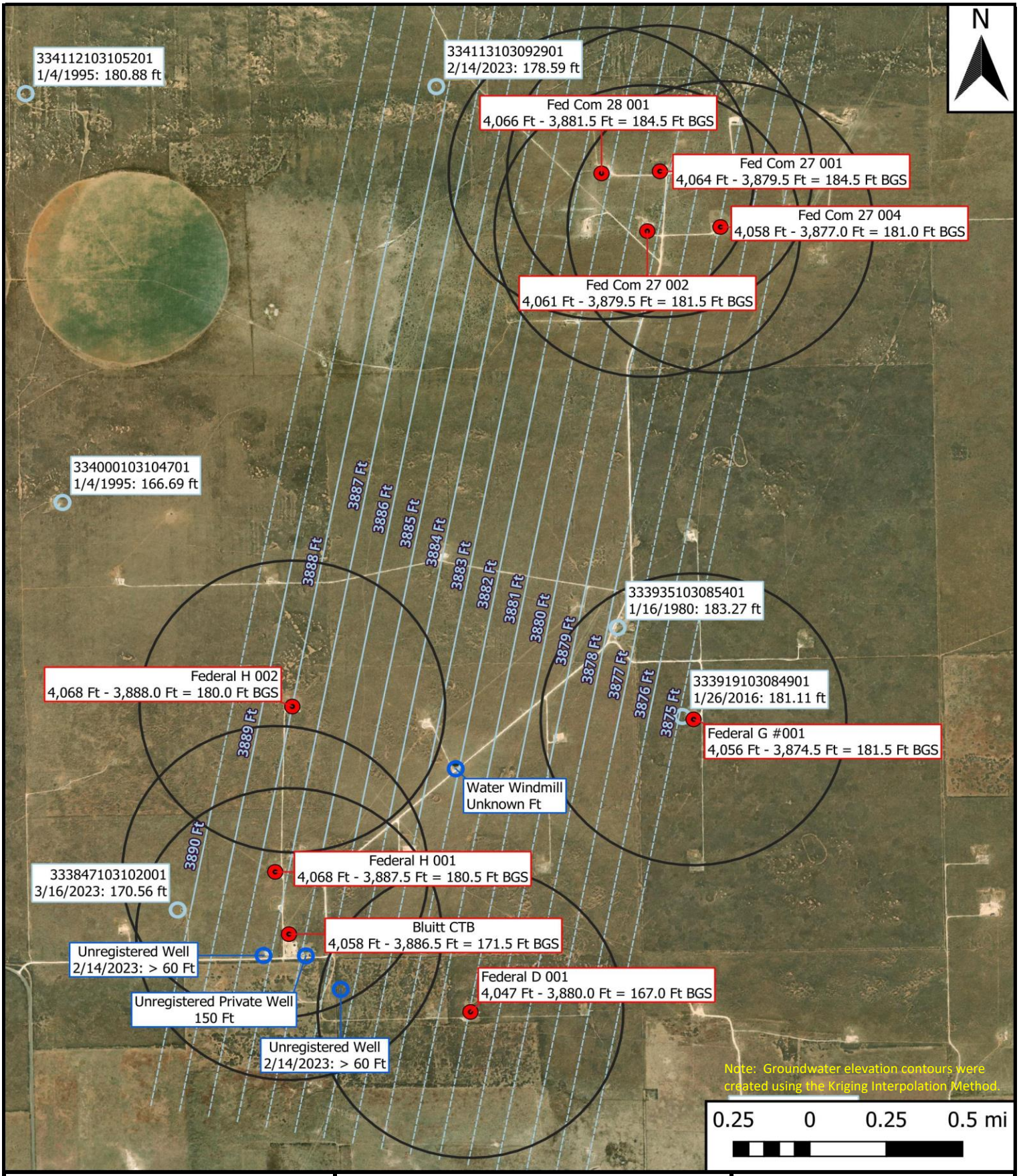
Table 1
Concentrations of BTEX, TPH, and Chloride in Soil

Table 1
Concentrations of BTEX, TPH, and Chloride in Soil
H.L. Brown Operating, LLC
Federal D 001
NMOCD Ref. #: nAPP2227253809

NMOCD Closure Criteria				**10**	**50**	**-**	**-**	**1,000**	**-**	**2,500**	**20,000**
NMOCD Reclamation Standard				**10**	**50**	**-**	**-**	**-**	**-**	**100**	**600**
Sample ID	**Date**	**Depth (Feet)**	**Soil Status**	**SW 846 8021B**		**SW 846 8015M Ext.**					**4500 Cl**
				Benzene (mg/kg)	**BTEX (mg/kg)**	**GRO C_6-C_{10} (mg/kg)**	**DRO C_{10}-C_{28} (mg/kg)**	**GRO + DRO C_6-C_{28} (mg/kg)**	**ORO C_{28}-C_{36} (mg/kg)**	**TPH C_6-C_{36} (mg/kg)**	**Chloride (mg/kg)**
FL 1 @ 1'	11/2/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	3,840
EW 1	11/2/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	1,120
NW 1	11/2/2022	0-1	In-Situ	<0.050	<0.300	<10.0	238	238	153	391	2,520
SW 1	11/2/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	1,200
WW 1	11/2/2022	0-1	In-Situ	<0.050	<0.300	<10.0	62.3	62.3	49.6	112	4,080
NH 1 @ 1'	12/12/2022	1	In-Situ	-	-	<10.0	<10.0	<20.0	<10.0	<30.0	160
EH 1 @ 1'	12/12/2022	1	In-Situ	-	-	<10.0	<10.0	<20.0	<10.0	<30.0	144
SH 1 @ 1'	12/12/2022	1	In-Situ	-	-	<10.0	<10.0	<20.0	<10.0	<30.0	192
WH 1 @ 1'	12/12/2022	1	In-Situ	-	-	<10.0	<10.0	<20.0	<10.0	<30.0	32.0

Dash (-): Sample not analyzed for that constituent.
Bold: NMOCD Closure Criteria exceedance.
Red: NMOCD Reclamation Standard exceedance.

Appendix A
Depth to Groundwater Information



- Site Location
- Half Mile Radius
- Well - USGS
- Well - Other
- Groundwater Contours (Ft MSL)
- Extended Groundwater Contours

HL Brown Sites

Inferred Depth to Groundwater Map

H.L. Brown Operating, LLC

Map GPS: 33.66350422, -103.15426221

Roosevelt County, NM

eTECH Environmental & Safety Solutions, Inc.

Drafted: mag

Checked: jwl Date: 3/17/23

eTECH Environmental & Safety Solutions, Inc.

Ground Water Sampling Log

Well ID: Unregistered Well

Date: 2/14/2023

Site Description/Construction Detail

Project: HL Browns Personnel: _____

Well Description/Location: Abandoned Well 3E of House Total Depth[a] (ft bmp): N/A

Type of Well: Monitor Recovery Potable Irrigation Other _____

Casing Material: PVC (Steel) Other _____ Diameter: 2" 4" 6" Other 10" Screen (ft bmp): Stove Pipe

Condition of Seal: Good Poor Needs Repair Other _____ Well Locked? Y N

Gauging Data

Static Water Level[b] (ft bmp) >60 Time _____ Measure Point Description Top of Casing, .75 ft agg

Comments: Open @ 60 ft, did not go deeper, fear of equipment Damage

Well Purge Data

Volume Factors[c]					
Dia (in.)	2"	3"	4"	5"	6"
Gal/ft	0.163	0.367	0.653	1.020	1.469

Well Volume ((a-b) x c) = _____ gal

Purging Volume (3 x Well Vol) = _____ gal

Well Purging Method: submersible peristaltic bailer other_____ Depth pump set (ft bmp) _____

Water Quality Indicator Parameters

Time	Cumulative Gallons Purged	Water Level (ft bmp)	Temp (°C)	pH (SU)	Specific Cond. (mS/cm)	TDS (g/l)	DO (mg/l)	ORP (mV)

Recording Interval: Traditional volume purge - every ½ well volume; Low flow - every 3-5 min, drawdown should not exceed 0.33ft during purging.

Total Gallons Purged _____ Approximate Discharge Rate (gpm): _____

Sample Data

Sample Collection Method: submersible peristaltic bailer other_____ Sample Time _____

*Project name for sample labels (if abbr): _____ Duplicate Collected? Y N

Comments

Stability Criteria:
- pH: ±0.1
- SC: ±5%, for SC ≤ 100 µS/cm; ±3%, for SC > 100 µS/cm
- DO: ±10% or 0.3 mg/L (whichever is greater)
- Temp: ± 0.2°C (USGS for thermistor)

Sample tubing left in well? Y N
(circle yes or no)
If so, **length** (ft)? _____

*Volume factors and stability criteria from USGS-NFM, 2006-Wilde et al., 1998, Driscoll, 1986, and EPA-Puls and Barcelona, 1996. Last form revision: 02.06.14.

eTECH Environmental & Safety Solutions, Inc.

Ground Water Sampling Log

Well ID: Unregistered well

Date: 2/14/2023

Site Description/Construction Detail

Project: HL Browns Personnel: _____

Well Description/Location: Abandoned well Total Depth[a] (ft bmp): N/A

Type of Well: Monitor Recovery Potable Irrigation Other Abandoned Livestock

Casing Material: PVC (Steel) Other _____ Diameter: 2" 4" (6") Other ____ Screen (ft bmp): Stove Pipe

Condition of Seal: Good Poor Needs Repair Other _____ Well Locked? Y N

Gauging Data

Static Water Level[b] (ft bmp) >60 ft Time _____ Measure Point Description Top of Casing, 1.5 ft agg

Comments: Open @ 60 ft, Did not go deeper, fear of losing equipment / damage

Well Purge Data

Volume Factors[c]					
Dia (in.)	2"	3"	4"	5"	6"
Gal/ft	0.163	0.367	0.653	1.020	1.469

Well Volume ((a-b) x c) = _____ gal

Purging Volume (3 x Well Vol) = _____ gal

Well Purging Method: submersible peristaltic bailer other_____ Depth pump set (ft bmp) _____

Water Quality Indicator Parameters

Time	Cumulative Gallons Purged	Water Level (ft bmp)	Temp (°C)	pH (SU)	Specific Cond. (mS/cm)	TDS (g/l)	DO (mg/l)	ORP (mV)

Recording Interval: Traditional volume purge - every ½ well volume; Low flow - every 3-5 min, drawdown should not exceed 0.33ft during purging.

Total Gallons Purged _____ Approximate Discharge Rate (gpm): _____

Sample Data

Sample Collection Method: submersible peristaltic bailer other_____ Sample Time _____

*Project name for sample labels (if abbr): _____ Duplicate Collected? Y N

Comments

_____

_____

_____

_____

Stability Criteria:
- pH: ±0.1
- SC: ±5%, for SC ≤ 100 µS/cm; ±3%, for SC > 100 µS/cm
- DO: ±10% or 0.3 mg/L (whichever is greater)
- Temp: ± 0.2°C (USGS for thermistor)

Sample tubing left in well? Y N
(circle yes or no)
If so, **length** (ft)? _____

*Volume factors and stability criteria from USGS-NFM, 2006-Wilde et al., 1998, Driscoll, 1986, and EPA-Puls and Barcelona, 1996. Last form revision: 02.06.14.

eTECH Environmental & Safety Solutions, Inc.

Ground Water Sampling Log

Well ID: 333647103102001

Date: 2/14/2016

Site Description/Construction Detail

Project: HL Browns Personnel: _____

Well Description/Location: Abandoned Well Total Depth[a] (ft bmp): NA

Type of Well: Monitor Recovery Potable Irrigation Other _____

Casing Material: PVC (Steel) Other _____ Diameter: 2" 4" (6") Other ____ Screen (ft bmp): Stove Pipe

Condition of Seal: Good Poor Needs Repair Other _____ Well Locked? Y N

Gauging Data

Static Water Level[b] (ft bmp) 7.60 Time _____ Measure Point Description _____

Comments: Did not go deeper, fear of equipment damage

Well Purge Data

Volume Factors[c]					
Dia (in.)	2"	3"	4"	5"	6"
Gal/ft	0.163	0.367	0.653	1.020	1.469

Well Volume ((a-b) x c) = _____ gal

Purging Volume (3 x Well Vol) = _____ gal

Well Purging Method: submersible peristaltic bailer other_____ Depth pump set (ft bmp) _____

Water Quality Indicator Parameters

Time	Cumulative Gallons Purged	Water Level (ft bmp)	Temp (°C)	pH (SU)	Specific Cond. (mS/cm)	TDS (g/l)	DO (mg/l)	ORP (mV)

Recording Interval: Traditional volume purge - every ½ well volume; Low flow - every 3-5 min, drawdown should not exceed 0.33ft during purging.

Total Gallons Purged _____ Approximate Discharge Rate (gpm): _____

Sample Data

Sample Collection Method: submersible peristaltic bailer other_____ Sample Time _____

*Project name for sample labels (if abbr): _____ Duplicate Collected? Y N

Comments

_____

_____

_____

_____

Stability Criteria:
- pH: ±0.1
- SC: ±5%, for SC ≤ 100 µS/cm; ±3%, for SC > 100 µS/cm
- DO: ±10% or 0.3 mg/L (whichever is greater)
- Temp: ± 0.2°C (USGS for thermistor)

Sample tubing left in well? Y N
(circle yes or no)
If so, **length** (ft)? _____

*Volume factors and stability criteria from USGS-NFM, 2006-Wilde et al., 1998, Driscoll, 1986, and EPA-Puls and Barcelona, 1996. Last form revision: 02.06.14.

ETECH Environmental & Safety Solutions, Inc.

Ground Water Sampling Log

Well ID: 334113103092901

Date: 2/14/2023

Site Description/Construction Detail

Project: HL Browns Personnel: _____

Well Description/Location: NW of Fed Comm Total Depth[a] (ft bmp): N/A

Type of Well: Monitor Recovery Potable Irrigation Other Abandoned Livestock

Casing Material: PVC (Steel) Other _____ Diameter: 2" 4" (6") Other ____ Screen (ft bmp): _____

Condition of Seal: Good Poor Needs Repair Other _____ Well Locked? Y N

Gauging Data

Static Water Level[b] (ft bmp) 178.59 Time _____ Measure Point Description Top of Casing

Comments: _____

Well Purge Data

Volume Factors[c]					
Dia (in.)	2"	3"	4"	5"	6"
Gal/ft	0.163	0.367	0.653	1.020	1.469

Well Volume ((a-b) x c) = _____ gal

Purging Volume (3 x Well Vol) = _____ gal

Well Purging Method: submersible peristaltic bailer other_____ Depth pump set (ft bmp) _____

Water Quality Indicator Parameters

Time	Cumulative Gallons Purged	Water Level (ft bmp)	Temp (°C)	pH (SU)	Specific Cond. (mS/cm)	TDS (g/l)	DO (mg/l)	ORP (mV)

Recording Interval: Traditional volume purge - every ½ well volume; Low flow - every 3-5 min, drawdown should not exceed 0.33ft during purging.

Total Gallons Purged _____ Approximate Discharge Rate (gpm): _____

Sample Data

Sample Collection Method: submersible peristaltic bailer other_____ Sample Time _____

*Project name for sample labels (if abbr): _____ Duplicate Collected? Y N

Comments

_____

_____

_____

_____

Stability Criteria:
- pH: ±0.1
- SC: ±5%, for SC ≤ 100 µS/cm; ±3%, for SC > 100 µS/cm
- DO: ±10% or 0.3 mg/L (whichever is greater)
- Temp: ± 0.2°C (USGS for thermistor)

Sample tubing left in well? Y N
(circle yes or no)
If so, **length** (ft)? _____

*Volume factors and stability criteria from USGS-NFM, 2006-Wilde et al., 1998, Driscoll, 1986, and EPA-Puls and Barcelona, 1996. Last form revision: 02.06.14.

eTECH Environmental & Safety Solutions, Inc.

Ground Water Sampling Log

Well ID: 333847103102001

Date: 3/16/2023

Site Description/Construction Detail

Project: HL Browns Personnel: _____

Well Description/Location: Abandoned Well Total Depth[a] (ft bmp): N/A

Type of Well: Monitor Recovery Potable Irrigation Other Abandoned Well, Livestock

Casing Material: PVC (Steel) Other _____ Diameter: 2" 4" (6") Other ____ Screen (ft bmp): Stove Pipe

Condition of Seal: Good Poor Needs Repair Other N/A Well Locked? Y (N)

Gauging Data

Static Water Level[b] (ft bmp) 176.56 Time _____ Measure Point Description Top of Casing ~2ft sgs

Comments: _____

Well Purge Data

Volume Factors[c]					
Dia (in.)	2"	3"	4"	5"	6"
Gal/ft	0.163	0.367	0.653	1.020	1.469

Well Volume ((a-b) x c) = _____ gal

Purging Volume (3 x Well Vol) = _____ gal

Well Purging Method: submersible peristaltic bailer other_____ Depth pump set (ft bmp) _____

Water Quality Indicator Parameters

Time	Cumulative Gallons Purged	Water Level (ft bmp)	Temp (°C)	pH (SU)	Specific Cond. (mS/cm)	TDS (g/l)	DO (mg/l)	ORP (mV)

Recording Interval: Traditional volume purge - every ½ well volume; Low flow - every 3-5 min, drawdown should not exceed 0.33ft during purging.

Total Gallons Purged _____ Approximate Discharge Rate (gpm): _____

Sample Data

Sample Collection Method: submersible peristaltic bailer other_____ Sample Time _____

*Project name for sample labels (if abbr): _____ Duplicate Collected? Y N

Comments

_____

_____

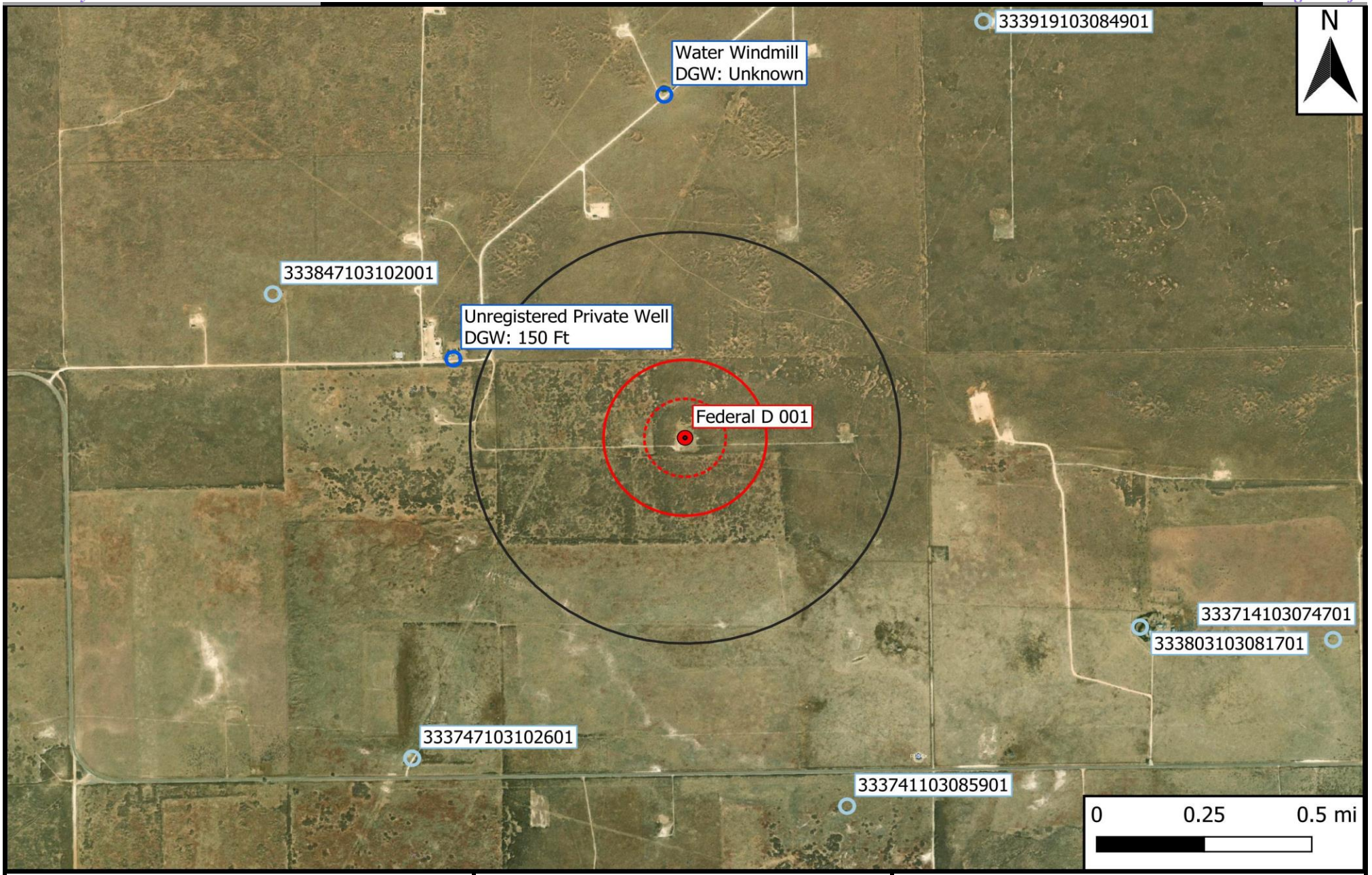
_____

_____

Stability Criteria:
- pH: ±0.1
- SC: ±5%, for SC ≤ 100 µS/cm; ±3%, for SC > 100 µS/cm
- DO: ±10% or 0.3 mg/L (whichever is greater)
- Temp: ± 0.2°C (USGS for thermistor)

Sample tubing left in well? Y N
(circle yes or no)
If so, **length** (ft)? _____

*Volume factors and stability criteria from USGS-NFM, 2006-Wilde et al., 1998, Driscoll, 1986, and EPA-Puls and Barcelona, 1996. Last form revision: 02.06.14.



Legend

- Site Location
- Well - NMOSE
- Well - USGS
- Potash Mine Workings
- Medium/High Karst
- 500 Ft Radius
- 1000 Ft Radius
- 0.5 Mi Radius
- 1% Annual Flood Chance
- Lake/Freshwater Pond
- Emergent/Forested Wetlands
- Riverine

Figure 2
Aerial Proximity Map
H.L. Brown Operating, LLC
Federal D 001
GPS: 33.640356, -103.159261
Roosevelt County

eTECH Environmental & Safety Solutions, Inc.

Drafted: mag Checked: jk Date: 12/15/22

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

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

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 670712.72 **Northing (Y):** 3723799.99 **Radius:** 3220

National Water Information System: Web Interface

USGS Water Resources

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

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Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 333714103074701

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

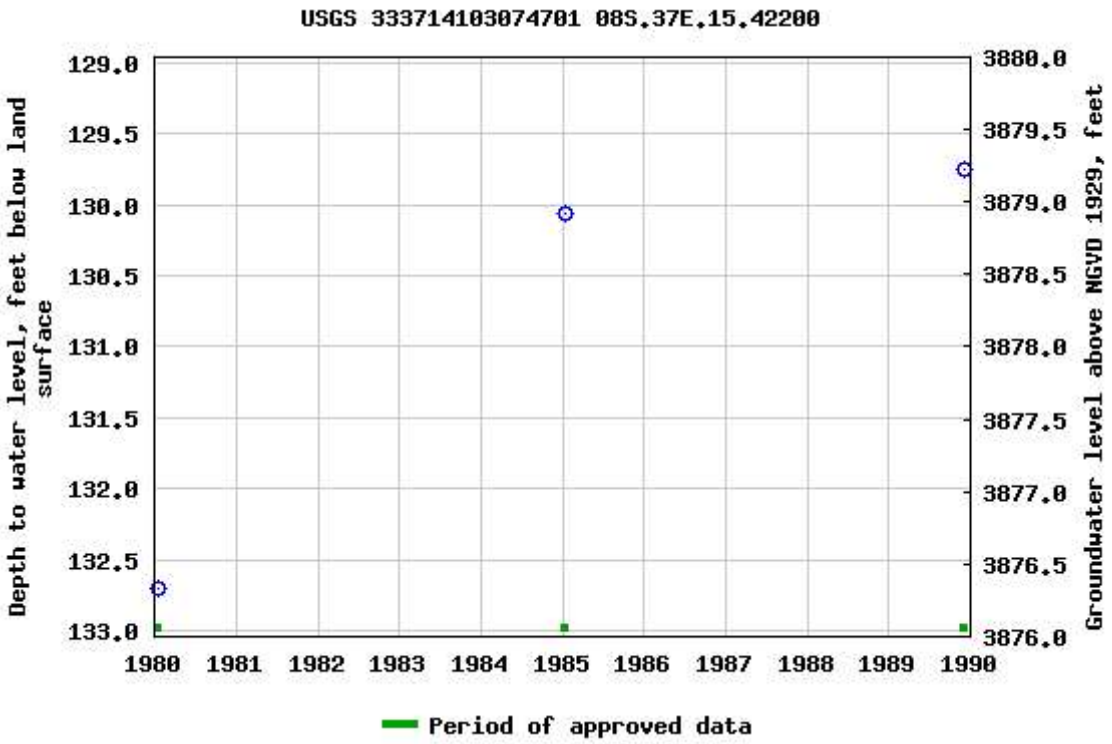
USGS 333714103074701 08S.37E.15.42200

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

Roosevelt County, New Mexico
Hydrologic Unit Code 12080001
Latitude 33°37'58", Longitude 103°07'58" NAD27
Land-surface elevation 4,009.00 feet above NGVD29
The depth of the well is 140 feet below land surface.
This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.
This well is completed in the Cretaceous System (210CRCS) local aquifer.

Output formats

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



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0.55 0.48 nadww01

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Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 333741103085901

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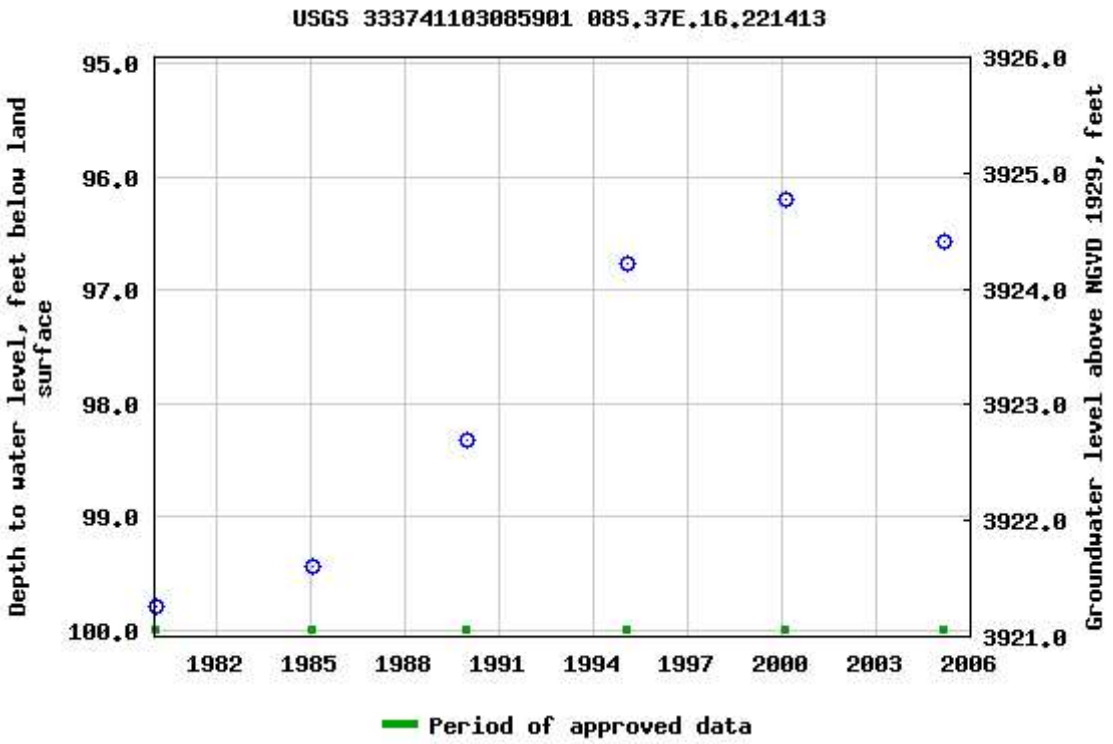
USGS 333741103085901 08S.37E.16.221413

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

Roosevelt County, New Mexico
Hydrologic Unit Code 12080001
Latitude 33°37'38", Longitude 103°09'09" NAD27
Land-surface elevation 4,021.00 feet above NGVD29
The depth of the well is 120 feet below land surface.
This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.
This well is completed in the Cretaceous System (210CRCS) local aquifer.

Output formats

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



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0.56 0.48 nadww01

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Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 333747103102601

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

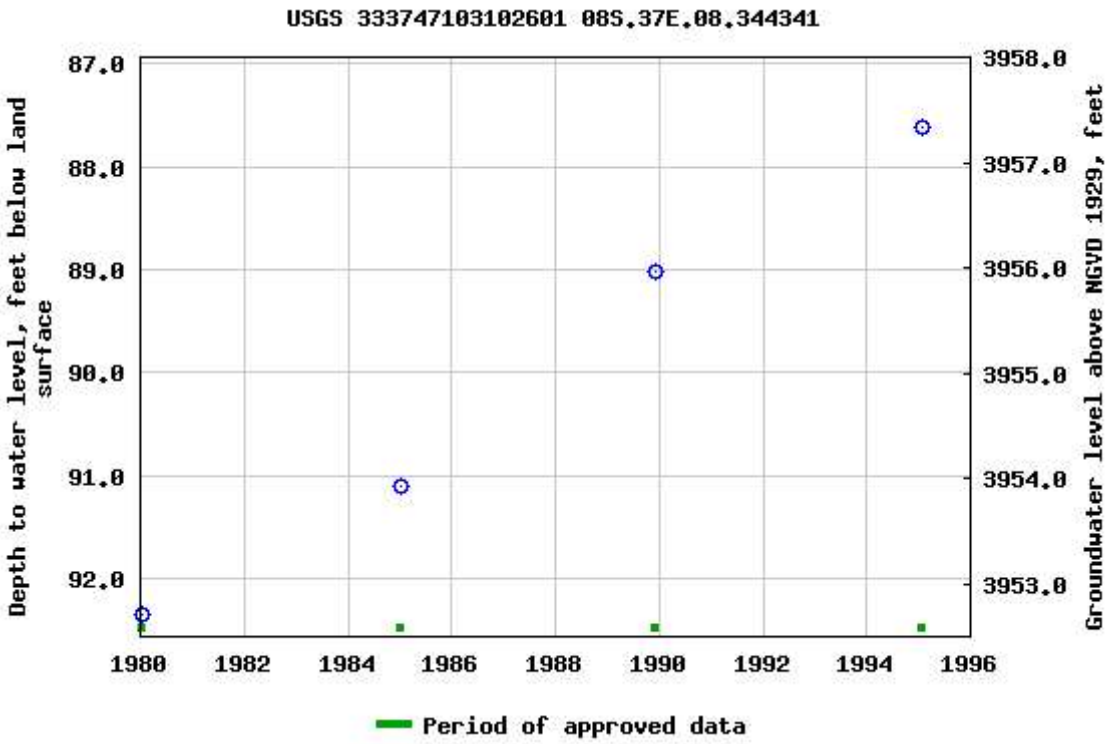
USGS 333747103102601 08S.37E.08.344341

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

Roosevelt County, New Mexico
Hydrologic Unit Code 12080001
Latitude 33°37'45", Longitude 103°10'12" NAD27
Land-surface elevation 4,045.00 feet above NGVD29
The depth of the well is 100 feet below land surface.
This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.
This well is completed in the Cretaceous System (210CRCS) local aquifer.

Output formats

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



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Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 333803103081701

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

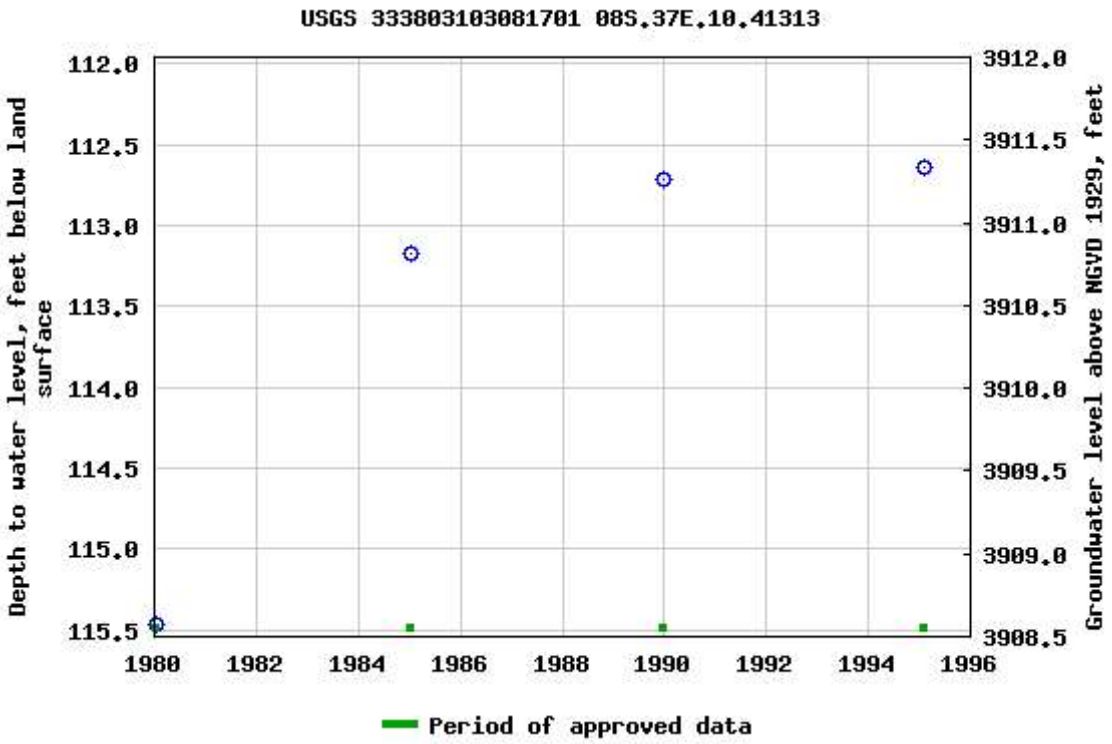
USGS 333803103081701 08S.37E.10.41313

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

Roosevelt County, New Mexico
Hydrologic Unit Code 12080001
Latitude 33°38'00", Longitude 103°08'26" NAD27
Land-surface elevation 4,024.00 feet above NGVD29
The depth of the well is 154 feet below land surface.
This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.
This well is completed in the Cretaceous System (210CRCS) local aquifer.

Output formats

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



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Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 333847103102001

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USGS 333847103102001 08S.37E.05.43131

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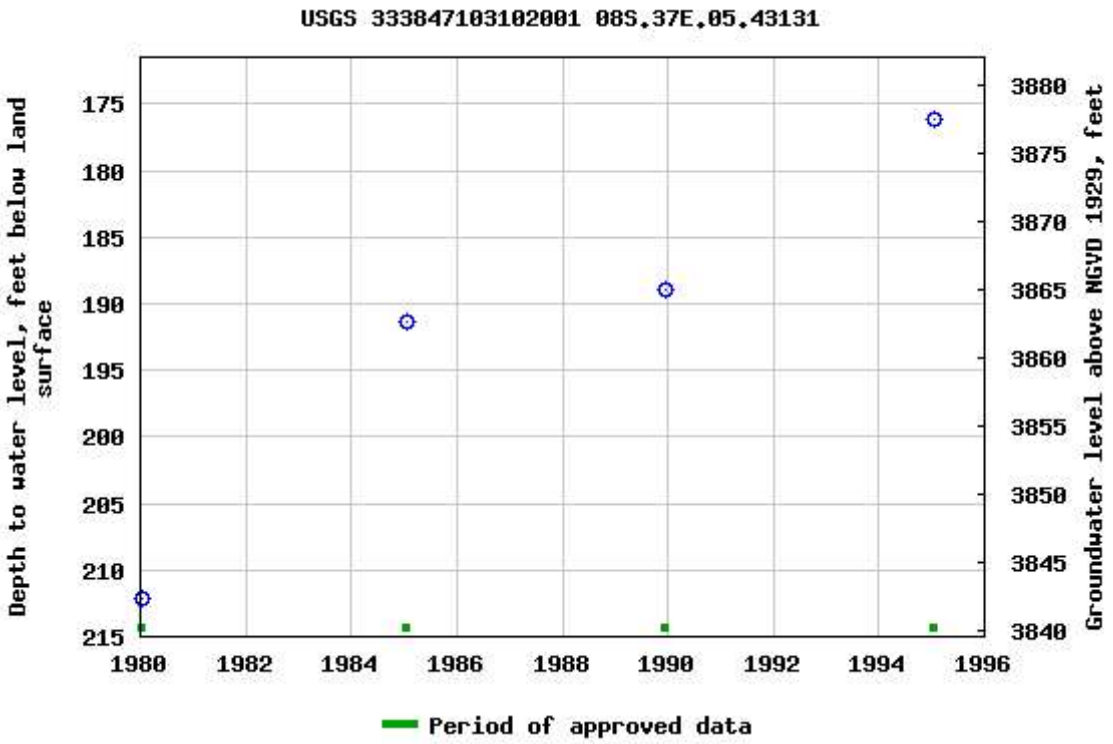
Roosevelt County, New Mexico
Hydrologic Unit Code 12080001
Latitude 33°38'44", Longitude 103°10'31" NAD27
Land-surface elevation 4,054.00 feet above NGVD29
The depth of the well is 219 feet below land surface.
This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.
This well is completed in the Cretaceous System (210CRCS) local aquifer.

Output formats

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



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Agency code = usgs
site_no list =
- 333919103084901

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

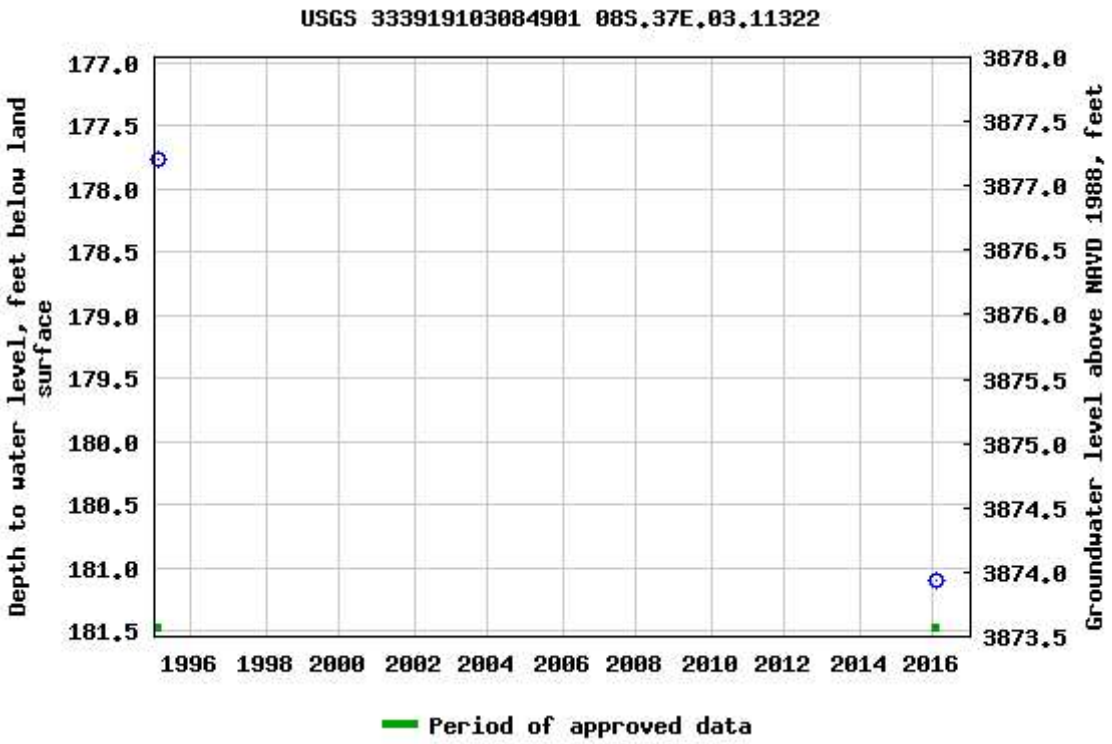
USGS 333919103084901 08S.37E.03.11322

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

Roosevelt County, New Mexico
Hydrologic Unit Code 12050001
Latitude 33°39'17.3", Longitude 103°08'48.9" NAD83
Land-surface elevation 4,055 feet above NAVD88
The depth of the well is 184 feet below land surface.
This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.

Output formats

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



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0.53 0.46 nadww01

Appendix B
Field Data and Soil Profile Logs

eTECH Environmental & Safety Solutions, Inc.

Initial Release Assessment Form

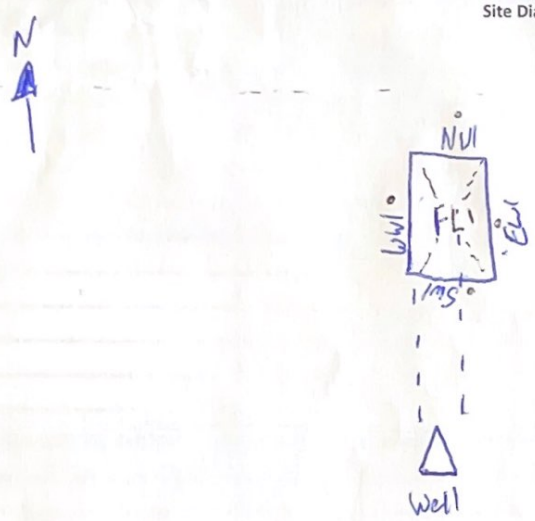
Date:

Project: Federal D 001

Clean Up Level: 0

Project Number: 16853 Latitude: 33.640356 Longitude: -103.159261

Site Diagram



Notes:

~Length: 13 ~Width: 11 ~Area: 143 ~Depth: 1 FT

	Yes	No
3-4 Representative Pictures of the Affected Area including sample locations?	☑	☐
Necessary Samples Field Screened and on Ice?	☑	☐
Sample and Field Screen Data Entered on Sample Log?	☑	☐
Was horizontal and vertical delineation achieved?	☑	☐

eTECH Environmental & Safety Solutions, Inc.

Sample Log

Date:

Project: Federal D 001

Project Number: 16853 Latitude: 33.640356 Longitude: -103.159261

Sample ID	PID/Odor	Chloride Conc.	GPS
NW1	—	7.6	
EW1	—	4.4	
SW1	—	6.0	
WW1	—	7.6	
FL1 @ 1'	—	5.0 H.S.	

Sample Point = SP #1 @ ## etc

Floor = FL #1 etc

Sidewall = SW #1 etc

Test Trench = TT #1 @ ##

Refusal = SP #1 @ 4'-R

Soil Intended to be Deferred = SP #1 @ 4' In-Situ

Resamples= SP #1 @ 5b or SW #1b

Stockpile = Stockpile #1

GPS Sample Points, Center of Comp Areas

eTECH Environmental & Safety Solutions, Inc.

Soil Profile

Date:

Project: Federal D 001

Project Number: 16853 Latitude: 33.640356 Longitude: -103.159261

Depth (ft. bgs)	Description
1	Caliche / Pad material
2	Red Sand
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	

eTECH Environmental & Safety Solutions, Inc.

Remediation Log

Project: Federal D 001

Project Number: 16853 Latitude: 33.640356 Longitude: -103.159261

	Yes	No
Confirmation of Active One Call? One Call No.	☐	☐
Confirmation of On-Site JSA?	☐	☐

Date:	Notes	Yds Out	Yds In
	****Begin Remediation Activities****		
11/2/22	Began Excavation, Stockpile, Sample		
11/12/22	Backfill, haul out, haul in	20	20
	****Begin Backfill Activities****		
	****Complete Remediation Activities****		

Total Yds Out	Total Yds In

	Yes	No
Pictures of Open Excavation Prior to Backfill	☐	☐
Relevant Information in Project Tracker?	☐	☐

Appendix C
Laboratory Analytical Reports

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

December 13, 2022

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: FEDERAL D001

Enclosed are the results of analyses for samples received by the laboratory on 12/12/22 16:11.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Etech Environmental & Safety Solutions
JOEL LOWRY
2617 W MARLAND
HOBBS NM, 88240
Fax To:

Received:	12/12/2022	Sampling Date:	12/12/2022
Reported:	12/13/2022	Sampling Type:	Soil
Project Name:	FEDERAL D001	Sampling Condition:	Cool & Intact
Project Number:	16853	Sample Received By:	Shalyn Rodriguez
Project Location:	HL BROWN - RURAL ROOSEVELT CO., NI		

Sample ID: NH 1 @ 1' (H225851-01)

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	12/13/2022	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	218	109	200	12.1	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	197	98.6	200	15.4	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					

Surrogate: 1-Chlorooctane	*97.6 %*	*45.3-161*
Surrogate: 1-Chlorooctadecane	*110 %*	*46.3-178*

Sample ID: EH 1 @ 1' (H225851-02)

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	12/13/2022	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	218	109	200	12.1	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	197	98.6	200	15.4	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					

Surrogate: 1-Chlorooctane	*105 %*	*45.3-161*
Surrogate: 1-Chlorooctadecane	*118 %*	*46.3-178*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Etech Environmental & Safety Solutions
JOEL LOWRY
2617 W MARLAND
HOBBS NM, 88240
Fax To:

Received:	12/12/2022	Sampling Date:	12/12/2022
Reported:	12/13/2022	Sampling Type:	Soil
Project Name:	FEDERAL D001	Sampling Condition:	Cool & Intact
Project Number:	16853	Sample Received By:	Shalyn Rodriguez
Project Location:	HL BROWN - RURAL ROOSEVELT CO., NI		

Sample ID: SH 1 @ 1' (H225851-03)

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	12/13/2022	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	218	109	200	12.1	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	197	98.6	200	15.4	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					

Surrogate: 1-Chlorooctane	*97.3 %*	*45.3-161*
Surrogate: 1-Chlorooctadecane	*113 %*	*46.3-178*

Sample ID: WH 1 @ 1' (H225851-04)

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	12/13/2022	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2022	ND	218	109	200	12.1	
DRO >C10-C28*	<10.0	10.0	12/13/2022	ND	197	98.6	200	15.4	
EXT DRO >C28-C36	<10.0	10.0	12/13/2022	ND					

Surrogate: 1-Chlorooctane	*99.9 %*	*45.3-161*
Surrogate: 1-Chlorooctadecane	*112 %*	*46.3-178*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Etech Environmental & Safety Solutions, Inc.	BILL TO	
Project Manager:	Joel Lowry	P.O. #:	
Address:	2617 W Marland	Company	H.L. Brown
City:	Hobbs	Attn:	
State:	NM	Address:	
Zip:	88240	City:	
Phone #:	(575) 264-9884	State:	Zip:
Fax #:		Phone #:	
Project #:	16853	Fax #:	
Project Owner:	H.L. Brown		
Project Name:	Federal D #1		
Project Location:	Rural Roosevelt Co., NM		
Sampler Name:	Miguel Ramirez		

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST															
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chloride	TPH (8015M)	BTEX (8021B)													
H225851																													
1	NH1@1'	G	1			X					X		12/12/22		X	X	X												
2	EH1@1'	↓	↓			↓					↓		↓		↓	↓	↓												
3	SH1@1'																												
4	WH1@1'	↓	↓			↓					↓		↓		↓	↓	↓												

Relinquished By:	Date: 12/12/22	Received By:	
	Time: 1611		
Relinquished By:	Date:	Received By:	
	Time:		

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

Rush Please

Please email results and copy of CoC to pm@etechenv.com.

Delivered By: (Circle One)	Sample Condition		CHECKED BY: (Initials)
Sampler - UPS - Bus - Other: 5.4 C-0.0 C 4.8 C #113	Cool: ☐ Yes ☐ No	Intact: ☐ Yes ☐ No	

FORM-006
Revision 1.0

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

November 10, 2022

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: FEDERAL D001

Enclosed are the results of analyses for samples received by the laboratory on 11/03/22 16:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Etech Environmental & Safety Solutions
JOEL LOWRY
2617 W MARLAND
HOBBS NM, 88240
Fax To:

Received:	11/03/2022	Sampling Date:	11/02/2022
Reported:	11/10/2022	Sampling Type:	Soil
Project Name:	FEDERAL D001	Sampling Condition:	Cool & Intact
Project Number:	16853	Sample Received By:	Tamara Oldaker
Project Location:	RURAL ROOSEVELT CO., NM		

Sample ID: FL 1 @ 1' (H225208-01)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/10/2022	ND	1.85	92.7	2.00	3.47	
Toluene*	<0.050	0.050	11/10/2022	ND	1.92	96.0	2.00	4.31	
Ethylbenzene*	<0.050	0.050	11/10/2022	ND	1.94	97.1	2.00	3.57	
Total Xylenes*	<0.150	0.150	11/10/2022	ND	5.98	99.7	6.00	3.33	
Total BTEX	<0.300	0.300	11/10/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *69.9-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3840**	16.0	11/07/2022	ND	400	100	400	7.69	QM-07

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/08/2022	ND	179	89.7	200	9.13	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	203	101	200	6.31	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane *95.5 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *102 %* *46.3-178*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Etech Environmental & Safety Solutions
JOEL LOWRY
2617 W MARLAND
HOBBS NM, 88240
Fax To:

Received:	11/03/2022	Sampling Date:	11/02/2022
Reported:	11/10/2022	Sampling Type:	Soil
Project Name:	FEDERAL D001	Sampling Condition:	Cool & Intact
Project Number:	16853	Sample Received By:	Tamara Oldaker
Project Location:	RURAL ROOSEVELT CO., NM		

Sample ID: NW 1 (H225208-02)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/10/2022	ND	1.85	92.7	2.00	3.47	
Toluene*	<0.050	0.050	11/10/2022	ND	1.92	96.0	2.00	4.31	
Ethylbenzene*	<0.050	0.050	11/10/2022	ND	1.94	97.1	2.00	3.57	
Total Xylenes*	<0.150	0.150	11/10/2022	ND	5.98	99.7	6.00	3.33	
Total BTEX	<0.300	0.300	11/10/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *69.9-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2520**	16.0	11/07/2022	ND	400	100	400	7.69	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/08/2022	ND	179	89.7	200	9.13	
DRO >C10-C28*	**238**	10.0	11/08/2022	ND	203	101	200	6.31	
EXT DRO >C28-C36	**153**	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane *85.7 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *109 %* *46.3-178*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Etech Environmental & Safety Solutions
JOEL LOWRY
2617 W MARLAND
HOBBS NM, 88240
Fax To:

Received:	11/03/2022	Sampling Date:	11/02/2022
Reported:	11/10/2022	Sampling Type:	Soil
Project Name:	FEDERAL D001	Sampling Condition:	Cool & Intact
Project Number:	16853	Sample Received By:	Tamara Oldaker
Project Location:	RURAL ROOSEVELT CO., NM		

Sample ID: EW 1 (H225208-03)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/10/2022	ND	1.85	92.7	2.00	3.47	
Toluene*	<0.050	0.050	11/10/2022	ND	1.92	96.0	2.00	4.31	
Ethylbenzene*	<0.050	0.050	11/10/2022	ND	1.94	97.1	2.00	3.57	
Total Xylenes*	<0.150	0.150	11/10/2022	ND	5.98	99.7	6.00	3.33	
Total BTEX	<0.300	0.300	11/10/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *69.9-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1120**	16.0	11/07/2022	ND	400	100	400	7.69	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/08/2022	ND	179	89.7	200	9.13	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	203	101	200	6.31	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane *95.7 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *99.6 %* *46.3-178*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Etech Environmental & Safety Solutions
JOEL LOWRY
2617 W MARLAND
HOBBS NM, 88240
Fax To:

Received:	11/03/2022	Sampling Date:	11/02/2022
Reported:	11/10/2022	Sampling Type:	Soil
Project Name:	FEDERAL D001	Sampling Condition:	Cool & Intact
Project Number:	16853	Sample Received By:	Tamara Oldaker
Project Location:	RURAL ROOSEVELT CO., NM		

Sample ID: SW 1 (H225208-04)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/10/2022	ND	1.85	92.7	2.00	3.47	
Toluene*	<0.050	0.050	11/10/2022	ND	1.92	96.0	2.00	4.31	
Ethylbenzene*	<0.050	0.050	11/10/2022	ND	1.94	97.1	2.00	3.57	
Total Xylenes*	<0.150	0.150	11/10/2022	ND	5.98	99.7	6.00	3.33	
Total BTEX	<0.300	0.300	11/10/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *69.9-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1200**	16.0	11/07/2022	ND	400	100	400	7.69	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/08/2022	ND	179	89.7	200	9.13	
DRO >C10-C28*	<10.0	10.0	11/08/2022	ND	203	101	200	6.31	
EXT DRO >C28-C36	<10.0	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane *89.5 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *94.3 %* *46.3-178*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Etech Environmental & Safety Solutions
JOEL LOWRY
2617 W MARLAND
HOBBS NM, 88240
Fax To:

Received:	11/03/2022	Sampling Date:	11/02/2022
Reported:	11/10/2022	Sampling Type:	Soil
Project Name:	FEDERAL D001	Sampling Condition:	Cool & Intact
Project Number:	16853	Sample Received By:	Tamara Oldaker
Project Location:	RURAL ROOSEVELT CO., NM		

Sample ID: WW 1 (H225208-05)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/10/2022	ND	1.85	92.7	2.00	3.47	
Toluene*	<0.050	0.050	11/10/2022	ND	1.92	96.0	2.00	4.31	
Ethylbenzene*	<0.050	0.050	11/10/2022	ND	1.94	97.1	2.00	3.57	
Total Xylenes*	<0.150	0.150	11/10/2022	ND	5.98	99.7	6.00	3.33	
Total BTEX	<0.300	0.300	11/10/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *69.9-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4080**	16.0	11/07/2022	ND	400	100	400	7.69	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/08/2022	ND	179	89.7	200	9.13	
DRO >C10-C28*	**62.3**	10.0	11/08/2022	ND	203	101	200	6.31	
EXT DRO >C28-C36	**49.6**	10.0	11/08/2022	ND					

Surrogate: 1-Chlorooctane *91.4 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *103 %* *46.3-178*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1/1

		BILL TO	
Company Name:	ETech Environmental	P.O. #:	
Project Manager:	Joel Lowry	Company:	H.L. Brown
Address:	2617 W. Marland	Attn:	
City:	Hobbs	Address:	
State:	NM	City:	
Zip:	88240	State:	Zip:
Phone #:	—	Phone #:	
Fax #:	—	Fax #:	
Project #:	16853		
Project Owner:	H.L. Brown		
Project Name:	Federal D 001		
Project Location:	Rural Roosevelt Co., NM		
Sampler Name:	Miguel Ramirez		

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chlorides	BTEX	TPH
H225208																	
1	FL1 @1'	C				X					X		11/2/22		X	X	X
2	NW1																
3	EW1																
4	SW1																
5	WW1																

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 11-3-22	Received By:	
	Time: 1605		
Relinquished By:	Date:	Received By:	
	Time:		

Verbal Result: ☐ Yes ☐ No Add'l Phone #:

All Results are emailed. Please provide Email address:

REMARKS: PM@etechenv.com

Delivered By: (Circle One)	Observed Temp. °C 4.8	Sample Condition Cool / Intact	CHECKED BY: (Initials)	Turnaround Time:	Standard ☒ Rush ☐
Sampler - UPS - Bus - Other:	Corrected Temp. °C 4.2	☑ Yes ☑ Yes ☐ No ☐ No	JO	Thermometer ID #113 Correction Factor -0.6°C	Bacteria (only) Sample Condition Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.3 07/18/22

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

Appendix D
Photographic Log

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

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

CONDITIONS

Operator: H L BROWN OPERATING, LLC P.O. Box 2237 Midland, TX 79702	OGRID: 213179
	Action Number: 202111
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved. Please note going forward, to provide additional info on unregistered wells used for dtw determination, like Lat/Long data.	5/8/2023