

Incident ID	nAPP2135430342
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?	<u>69</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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

Form C-141

State of New Mexico  
Oil Conservation Division

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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: Grant HuckabayTitle: Environmental SpecialistSignature: Date: 2-17-22email: granth@forl.comTelephone: (432) 687-1777**OCD Only**

Received by: \_\_\_\_\_

Date: \_\_\_\_\_

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Oil Conservation Division

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Incident ID	nAPP2135430342
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Application ID	

## Remediation Plan

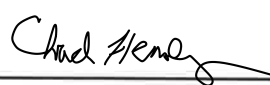
**Remediation Plan Checklist:** Each of the following items must be included in the plan.

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

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

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

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

Printed Name: Grant HuckabayTitle: Environmental SpecialistSignature: Date: 2-17-22email: granth@forl.comTelephone: (432) 687-1777
**OCD Only**
Received by: Chad HensleyDate: 03/21/2022
☒ Approved
 ☐ Approved with Attached Conditions of Approval
 ☐ Denied
 ☐ Deferral Approved
Signature: Date: 03/21/2022

# Site Assessment Report and Proposed Remediation Workplan

**Fasken Oil and Ranch, Ltd.**

**Denton No. 7**

Lea County, New Mexico

Unit Letter G, Section 11, Township 15 South, Range 37 East

Latitude 33.033834 North, Longitude 103.169512 West

**NMOCD Reference No. nAPP2135430342**

Prepared By:

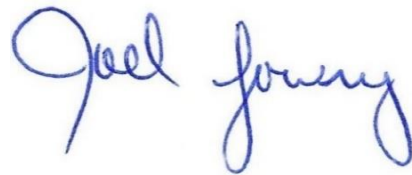
**Etech Environmental & Safety Solutions, Inc.**

2617 W. Marland

Hobbs, New Mexico 88240



Matthew Grieco



Joel W. Lowry



Midland • San Antonio • Lubbock • Hobbs • Lafayette



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## 1.0 PROJECT INFORMATION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of Fasken Oil and Ranch, Ltd., has prepared this *Site Assessment Report and Proposed Remediation Workplan* for the release site known as the Denton No. 7 (henceforth, "Site"). Details of the release are summarized below:

### Location of Release Source

Latitude: 33.033834 Longitude: -103.169512

Provided GPS are in WGS84 format.

Site Name:	Denton No. 7	Site Type:	Oil Well
Date Release Discovered:	12/8/2021	API # (if applicable):	30-025-05294

Unit Letter	Section	Township	Range	County
G	11	15S	37E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name ANGELL #2 FAMILY LTD PARTNERSHIP)

### Nature and Volume of Release

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls)	1	Volume Recovered (bbls)	0.5
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls)	9	Volume Recovered (bbls)	3
	Is the concentration of dissolved chloride in the produced water > 10,000 mg/L?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
<input type="checkbox"/> Condensate	Volume Released (bbls)		Volume Recovered (bbls)	
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)		Volume Recovered (Mcf)	
<input type="checkbox"/> Other (describe)	Volume/Weight Released		Volume/Weight Recovered	

#### Cause of Release:

Due to corrosion, flowline started leaking. Fasken rep laced a joint of the steel flowline and well was returned to production.

### Initial Response

- ☒ The source of the release has been stopped.
- ☒ The impacted area has been secured to protect human health and the environment.
- ☒ Release materials have been contained via the use of berms or dikes, absorbent pad, or other containment devices
- ☒ 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.

Two NMOSE wells (L-01283 and L-07610) were identified within a 500-foot radius of the Site. A field inspection of the wells was conducted to evaluate their impact on the site characterization; however, neither of the wells was able to be located. The wells were either incorrectly positioned on the NMOSE well map or have been removed, and do not affect the site characterization.

Groundwater gauging data collected in 2020 from NMOSE wells L-13629 POD 7 through POD 14 and POD 16 suggests a minimum groundwater depth of 69 feet. Although older data collected within a half-mile radius of the Site suggests a more shallow depth to groundwater, data collected more than 25 years ago is considered out of date and does not affect the site characterization. Guidance for this decision can be found in section (IX)(a) of *Procedures for Implementation of the Spill Rule (19.15.29 NMAC)*: "If nearby wells are used, it is preferable if they are situated within ½-mile of the release, the water level information is no more than 25 years old, and well construction information is provided."

What is the shallowest depth to groundwater beneath the area affected by the release?	69 Feet		
Did the release impact groundwater or surface water?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
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Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Did the release impact areas not on an exploration, development, production or storage site?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

NMOCD Siting Criteria data was gathered from available resources including Bureau of Land Management (BLM) and Fish and Wildlife Services (FWS) 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	Laboratory Analytical Method	Closure Criteria*†	Reclamation Standard*‡
69 Feet	Chloride (Cl <sup>-</sup> )	EPA 300.0 or SM4500 Cl B	10,000	600
	Total Petroleum Hydrocarbons (TPH)	EPA SW-846 Method 8015M Ext	2,500	100
	Gas Range Organics + Diesel Range Organics (GRO + DRO)	EPA SW-846 Method 8015M	1,000	-
	Benzene	EPA SW-846 Methods 8021b or 8260b	10	10
	Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX)	EPA SW-846 Methods 8021b or 8260b	50	50

\* Measured in milligrams per kilogram (mg/kg)

† Table I, Section 19.15.29.12 of the New Mexico Administrative Code (NMAC).

‡ The NMOCD Reclamation Standard applies only to the top 4' of soil in non-production areas. Section 19.15.29.13 D.(1) NMAC.

### 4.0 INITIAL SITE ASSESSMENT

On January 12, 2022, Etech conducted an initial site assessment. During the initial site assessment, a hand-augered soil bore was advanced within the release margins in an effort to determine the vertical extent of soil impacts. In addition, hand-augered soil bores were advanced at the inferred edges of the affected area in an effort to determine the horizontal extent of soil impacts. During the advancement of the hand-augered soil bores, field soil samples were collected and field-screened for the presence of volatile organic compounds utilizing visual/olfactory senses and concentrations of chloride utilizing a Hach Quantab® chloride test kit. A site and sample location map is provided as Figure 3. Field data and soil profile logs are provided as Appendix B.

Based on field observations and field test data, ten (10) delineation soil samples (EH @ 0', EH @ 1', NH @ 0', NH @ 1', SH D @ 0', SH D @ 1', WH F @ 0', WH F @ 1', V 1 @ 1', and V 1 @ 2') were submitted to a certified commercial laboratory for analysis of BTEX, TPH, and chloride. Based on laboratory analytical results, soil was not affected above the NMOCD Closure Criteria beyond one (1) foot below ground surface (bgs), and the horizontal extent of affected soil impacted above the NMOCD Closure Criteria was adequately defined. A soil chemistry table is provided as Table 1. Laboratory analytical reports are provided in Appendix C.

### 5.0 PROPOSED REMEDIATION PLAN

Based on laboratory analytical results, site characteristics, and field observations made during the initial site assessment, Fasken Oil and Ranch, Ltd., proposes the following remediation activities designed to advance the Site toward an approved closure:

- Utilizing mechanical equipment, excavate impacted soil affected above the NMOCD Closure Criteria in the area characterized by sample point V 1 to an estimated depth of one (1) foot bgs. The floor and sidewalls of the excavated area will be advanced until laboratory analytical results indicate concentrations of BTEX, TPH, and chloride are below the NMOCD Closure Criteria.
- Impacted soil will be temporarily stockpiled on-site atop an impermeable liner, then transported to an NMOCD-approved surface waste facility for disposal.
- Upon excavating impacted soil affected above the NMOCD Closure Criteria, collect the requisite confirmation soil samples.
- Upon receiving laboratory analytical results from confirmation soil samples, backfill the excavated area with locally sourced, non-impacted, "like" material.
- Upon completion of remediation activities, a *Remediation Summary and Soil Closure Request* will be prepared detailing field activities and laboratory analytical results from confirmation soil samples.

## **6.0 SAMPLING PLAN**

Upon completion of excavation activities, representative five-point composite confirmation soil samples will be collected from the excavation sidewalls in each cardinal direction, representing no more than 50 linear feet. A minimum of one (1) representative five-point composite confirmation soil sample will be collected from the base of the excavated area representing every 300 square feet. Additional, discrete grab samples will be collected from wet or visibly stained areas inferred to have been affected by the release, as necessary.

## **7.0 TIMELINE AND ESTIMATED VOLUME OF SOIL TO BE REMEDIATED**

Remediation activities are expected to be completed within ninety (90) days of receiving necessary approval(s) of the *Site Assessment Report and Proposed Remediation Workplan*. Based on laboratory analytical results, site characteristics, and field observations made during the initial site assessment, it is estimated that approximately 185 cubic yards of impacted soil is in need of removal.

## **8.0 RESTORATION, RECLAMATION, AND RE-VEGETATION PLAN**

Areas affected by remediation and closure activities will be substantially restored to the condition that existed prior to the release, to the extent practicable. Excavated areas will be backfilled with locally sourced, non-impacted, "like" material placed at or near original relative positions. The affected area will be compacted and contoured to meet the needs of the facility, to the extent practicable. Affected areas were limited to production pads and/or lease roads, and will not require reseeding.

## **9.0 LIMITATIONS**

Etech Environmental & Safety Solutions, Inc., has prepared this *Site Assessment Report and Proposed Remediation Workplan* to the best of its ability. No other warranty, expressed or implied, is made or intended. Etech has examined and relied upon documents reference 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 Fasken Oil and Ranch, Ltd. Use of the information contained in this report is prohibited without the consent of Etech and/or Fasken Oil and Ranch, Ltd.



## **10.0      DISTRIBUTION**

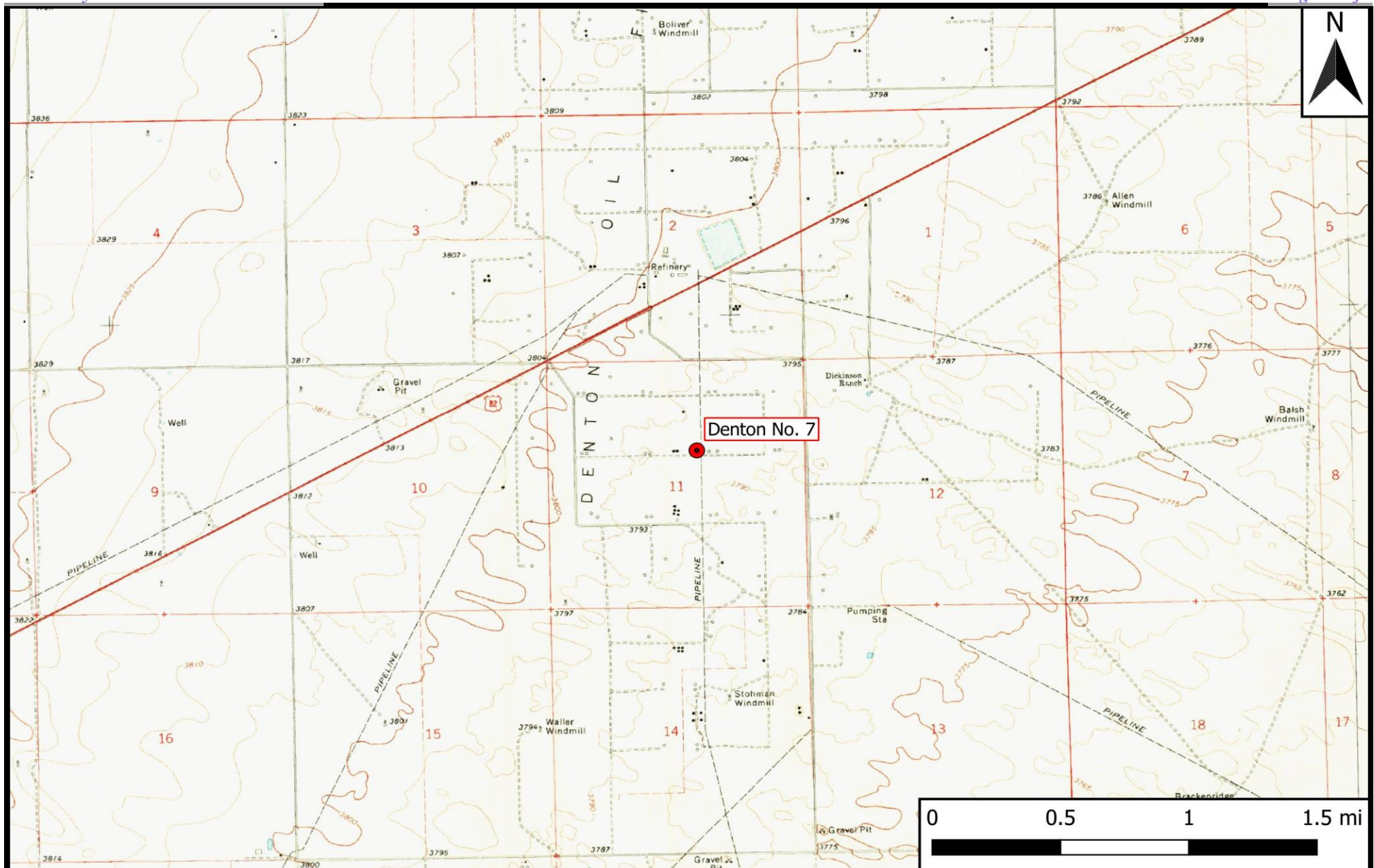
*Fasken Oil and Ranch, Ltd.*  
*6101 Holiday Hill Rd*  
*Midland, TX 79707*

*New Mexico Energy, Minerals and Natural 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  
Fasken Oil and Ranch, Ltd.  
Denton No. 7  
GPS: 33.033834, -103.169512  
Lea County

**eTECH**  
Environmental & Safety Solutions, Inc.

Drafted: mag

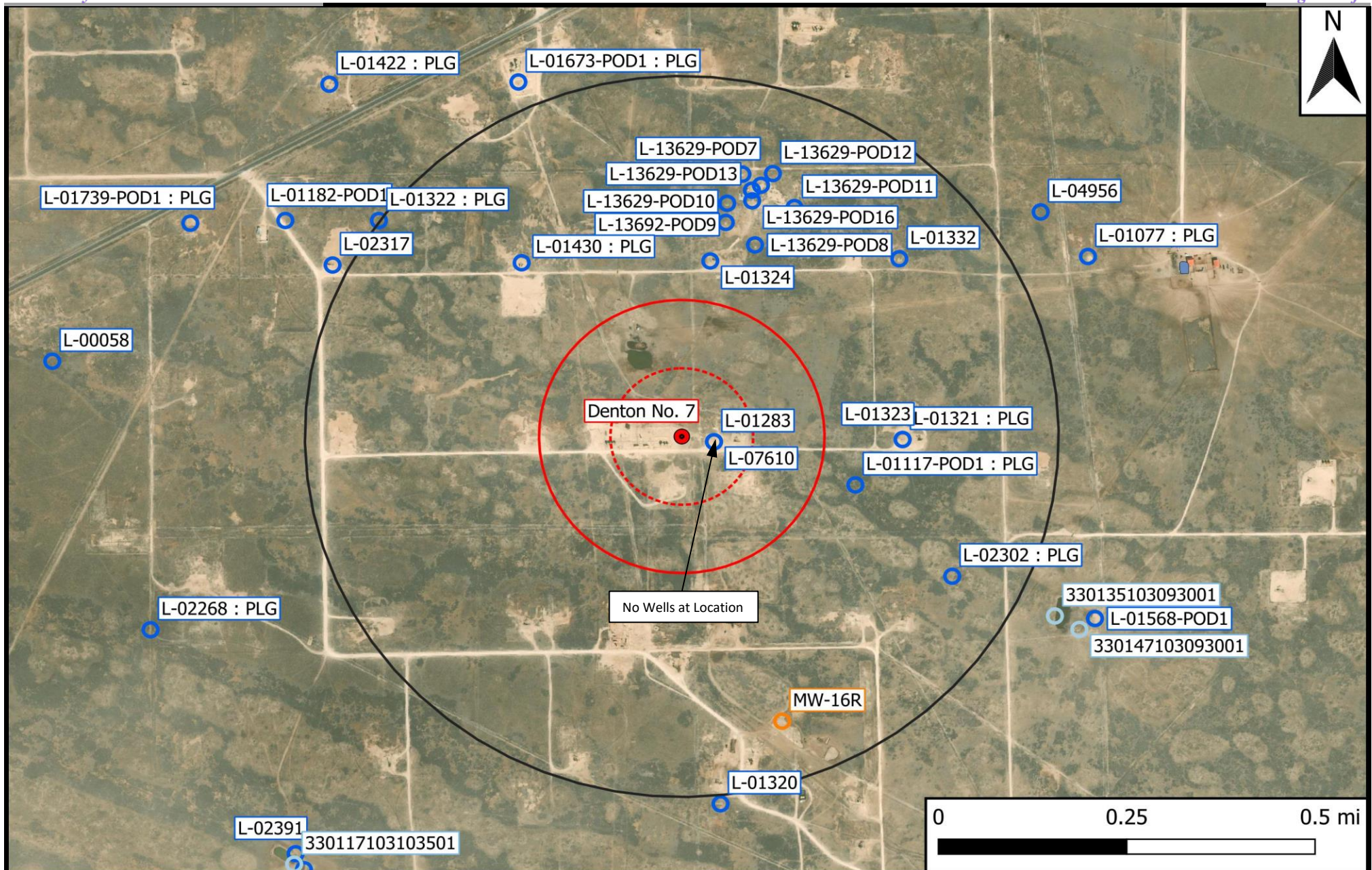
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Date: 2/4/22

## **Figure 2**

### **Aerial Proximity Map**





## Legend

- Site Location
- Well - NMOSE
- Well - USGS
- Well - Other
- 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  
Fasken Oil and Ranch, Ltd.  
Denton No. 7  
GPS: 33.033834, -103.169512  
Lea County



Drafted: mag

Checked: jwl

Date: 2/4/22



### **Figure 3**

## **Site and Sample Location Map**



## Legend

- Sample Point
- Release Area

## Figure 3

Site and Sample Location Map  
 Fasken Oil and Ranch, Ltd.  
 Denton No. 7  
 GPS: 33.033834, -103.169512  
 Lea County

**eTECH**  
 Environmental & Safety Solutions, Inc.

Drafted: mag

Checked: jwl

Date: 2/4/22

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

**Table 1**  
**Concentrations of BTEX, TPH, and Chloride in Soil**  
**Fasken Oil and Ranch, Ltd.**  
**Denton No. 7**  
**NMOCD Ref. #: nAPP2135430342**

<b>NMOCD Closure Criteria</b>				<b>10</b>	<b>50</b>	<b>-</b>	<b>-</b>	<b>1,000</b>	<b>-</b>	<b>2,500</b>	<b>10,000</b>
<b>NMOCD Reclamation Standard</b>				<b>10</b>	<b>50</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>600</b>
Sample ID	Date	Depth (Feet)	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C <sub>6</sub> -C <sub>10</sub> (mg/kg)	DRO C <sub>10</sub> -C <sub>28</sub> (mg/kg)	GRO + DRO C <sub>6</sub> -C <sub>28</sub> (mg/kg)	ORO C <sub>28</sub> -C <sub>36</sub> (mg/kg)	TPH C <sub>6</sub> -C <sub>36</sub> (mg/kg)	Chloride (mg/kg)
EH @ 0'	1/12/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64.0
EH @ 1'	1/12/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
NH @ 0'	1/12/2022	0	In-Situ	<0.050	<0.300	<10.0	197	197	25.4	222	128
NH @ 1'	1/12/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	528
NH B @ 0'	1/27/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
SH D @ 0'	1/12/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SH D @ 1'	1/12/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128
WH F @ 0'	1/12/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
WH F @ 1'	1/12/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
V 1 @ 1'	1/12/2022	1	In-Situ	<0.050	<0.300	<10.0	270	270	19.2	289	736
V 1 @ 2'	1/12/2022	2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	592

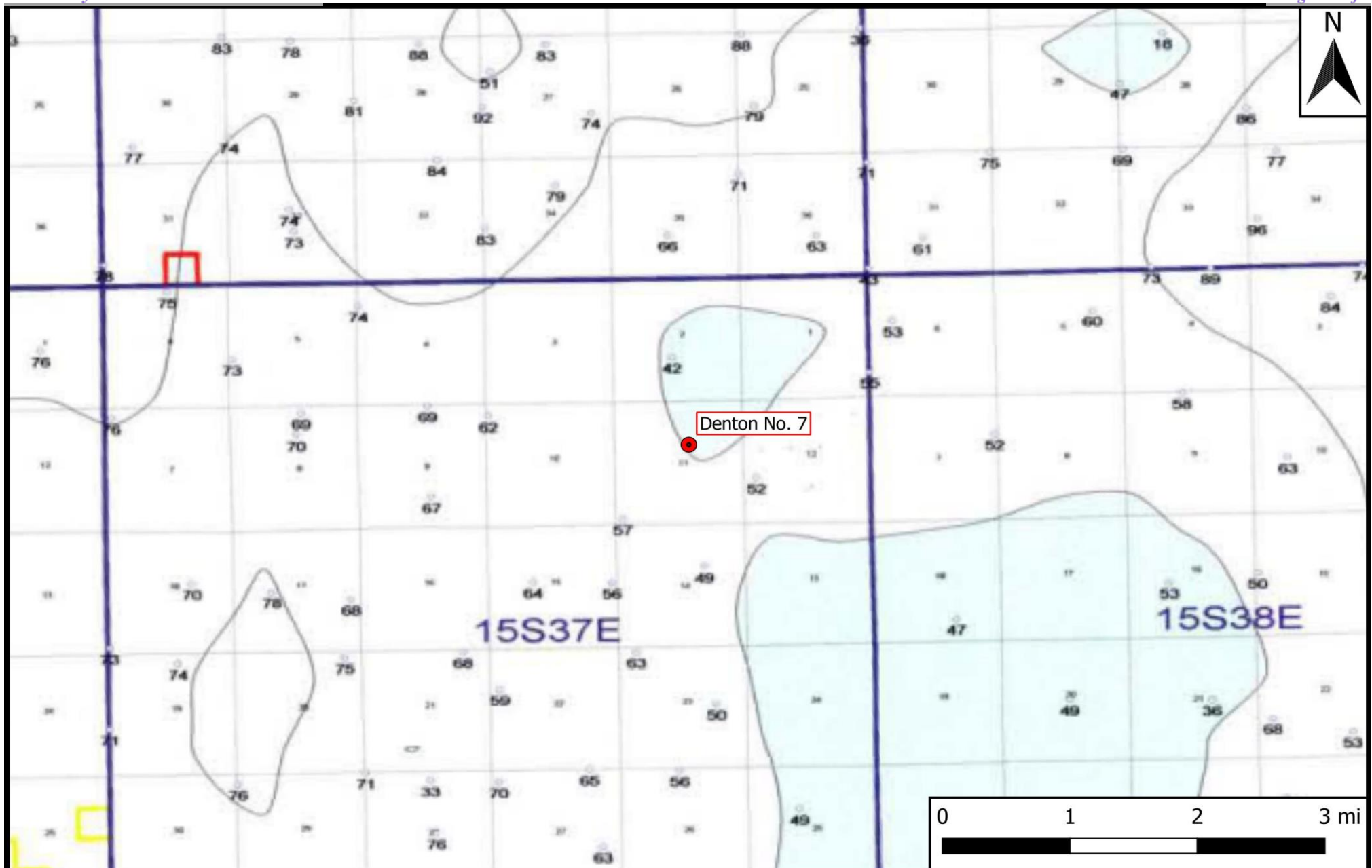
Dash (-): Sample not analyzed for that constituent.

**Bold:** NMOCD Closure Criteria exceedance.**Red:** NMOCD Reclamation Standard exceedance.

## **Appendix A**

### **Depth to Groundwater Information**





## Legend

● Site Location

## Figure 4

Inferred Depth to Groundwater Trend Map  
Fasken Oil and Ranch, Ltd.

Denton No. 7

GPS: 33.033834, -103.169512

Lea County

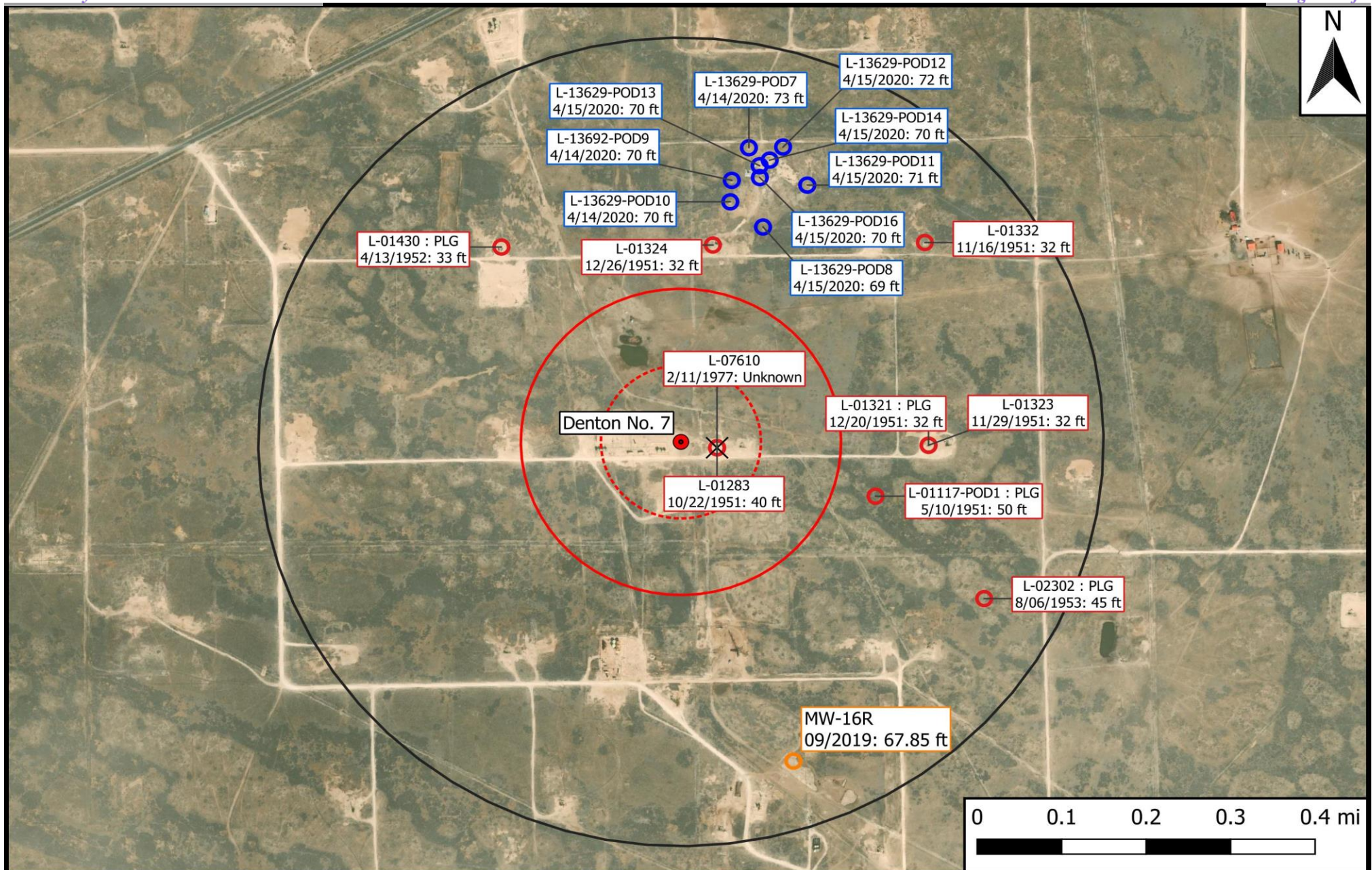
**eTECH**  
Environmental & Safety Solutions, Inc.

Drafted: mag

Checked: jwl

Date: 2/4/22





## Legend

- Site Location
- Well - Data Newer than 25 Years
- Well - Data Older than 25 Years
- Well - Other
- ✕ Well - Incorrectly Located
- ⋯ 500 Ft Radius
- ▭ 1000 Ft Radius
- 0.5 Mi Radius

Figure 5A

NMOSE Well Proximity Map

Fasken Oil and Ranch, Ltd.

Denton No. 7

GPS: 33.033834, -103.169512

Lea County

**eTECH**  
Environmental & Safety Solutions, Inc.

Drafted: mag

Checked: jwl

Date:

2/4/22



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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

(R=POD has been replaced,

O=orphaned,

C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
<a href="#">L 01283</a>		L	LE	3	2	11	15S	37E		671012	3656515*	69	120	40	80
<a href="#">L 07610</a>		L	LE	3	2	11	15S	37E		671012	3656515*	69	100		
<a href="#">L 01117 POD1</a>		L	LE	3	4	2	11	15S	37E	671314	3656419*	386	120	50	70
<a href="#">L 01324</a>		L	LE	1	2	11	15S	37E		671004	3656917*	395	120	32	88
<a href="#">L 13629 POD8</a>		L	LE	2	1	2	11	15S	37E	671100	3656952	453	90	69	21
<a href="#">L 01321</a>		L	LE	4	2	11	15S	37E		671415	3656520*	471	120	32	88
<a href="#">L 01323</a>		L	LE	4	2	11	15S	37E		671415	3656520*	471	120	32	88
<a href="#">L 13629 POD10</a>		L	LE	2	1	2	11	15S	37E	671037	3657002	485	90	70	20
<a href="#">L 01430</a>		L	LE	2	1	11	15S	37E		670601	3656913*	516	120	33	87
<a href="#">L 13692 POD9</a>		L	LE	2	1	2	11	15S	37E	671040	3657045	527	90	70	20
<a href="#">L 13629 POD16</a>		L	LE	2	1	2	11	15S	37E	671094	3657050	545	90	70	20
<a href="#">L 13629 POD11</a>		L	LE	2	1	2	11	15S	37E	671184	3657035	563	90	71	19
<a href="#">L 13629 POD13</a>		L	LE	2	1	2	11	15S	37E	671093	3657074	567	90	70	20
<a href="#">L 13629 POD14</a>		L	LE	2	1	2	11	15S	37E	671112	3657085	583	90	70	20
<a href="#">L 13629 POD7</a>		L	LE	2	1	2	11	15S	37E	671073	3657109	597	90	73	17
<a href="#">L 01332</a>		L	LE	2	2	11	15S	37E		671408	3656922*	610	115	32	83
<a href="#">L 13629 POD12</a>		L	LE	2	1	2	11	15S	37E	671138	3657111	616	90	72	18
<a href="#">L 02302</a>		L	LE	2	2	4	11	15S	37E	671521	3656216*	656	80	45	35

Average Depth to Water: **54 feet**

Minimum Depth: **32 feet**

Maximum Depth: **73 feet**

**Record Count:** 18

### UTMNAD83 Radius Search (in meters):

**Easting (X):** 670943.16

**Northing (Y):** 3656526.67

**Radius:** 804.67

\*UTM location was derived from PLSS - see Help

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1/25/22 9:05 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER



Note: The following pages were extracted from the "Denton Trunkline Spill Workplan", dated December 20, 2019.

## **Depth to groundwater at 1RP-5271**

Please note that the following information was submitted to Fasken Oil and Ranch for nearby project 1RP-5270 by environmental consulting company SESI in Hobbs. Please note that most of the wells noted are within ½ mile of 1RP-5271. In particular, MW-16R is within the spill area of 1RP-5271. This monitoring well was installed at the direction of Plains All American Pipeline for a previous release that Plains All American is responsible for. David Boyer at SESI gauged this well on September 30, 2019. As needed, the full gauging history of this well might be available if it is needed by the OCD.

Fasken is also including an email from Camille Bryant at Plains All American Pipeline in reference to the depth to water for all Plains All American

**From:** [David Boyer](#)  
**To:** [Aaron Pachlhofer](#)  
**Cc:** [Rebecca Pons](#)  
**Subject:** Fasken SWD #2 information  
**Date:** Tuesday, October 08, 2019 6:39:05 PM  
**Attachments:** [Fasken SWD #2 Nearby Water Well Map.pdf](#)

---

Aaron,

Attached is a map of nearby wells with depth to water and distance from SWD #2.

Some dates are greater than 30 years old, but are include to show water levels were greater than 50 feet at that time. Water levels in the Lea County ground water basin are declining everywhere to pumping, mainly for agriculture. These have been documented historically by numerous USGS and NM State Engineer Studies.

Monitor Well MW-16R is located at site of your Trunkline release and was sampled by me on Monday September 30, 2019

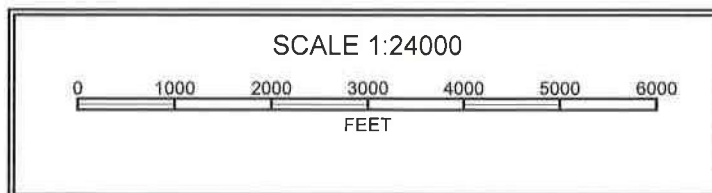
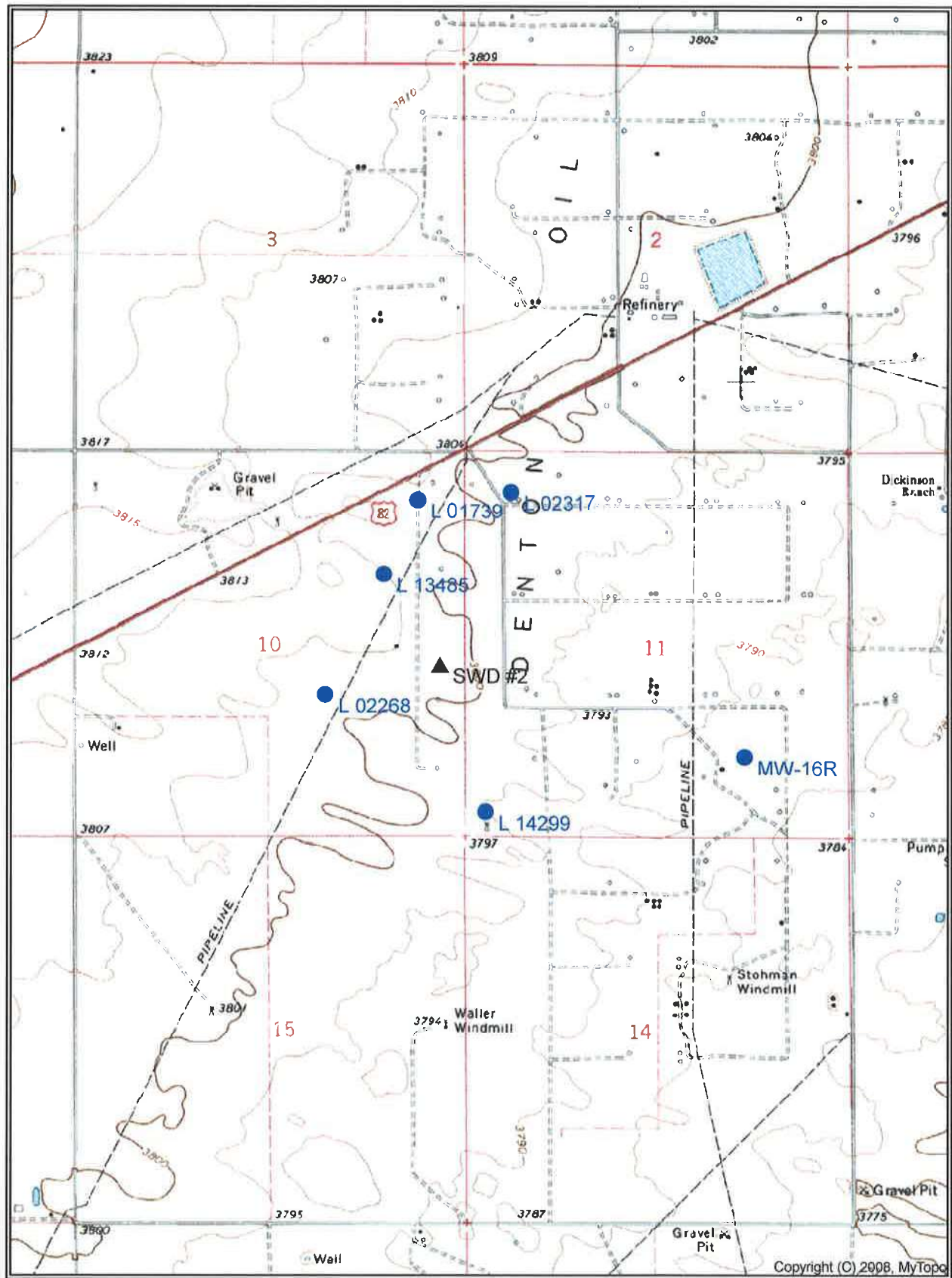
Well ID	Date	DTW (ft.)	Distance (miles)
L 01739	03/1953	55	0.43
L 02268	06/1953	55	0.31
L 02317	08/1953	65	0.48
L 13485	12/2013	103	0.27
L 14299	08/2017	84	0.40
MW-16R	09/2019	67.85	0.82

Also attached is a map composite of all the sampling locations at the SWD #2.

Rebecca should be able to help you if you have additional questions.

David G. Boyer, P.G.  
Hydrogeologist  
Safety & Environmental Solutions, Inc.  
703 East Clinton St.  
P.O. Box 1613  
Hobbs, New Mexico 88241  
(575) 397-0510 (office)  
(575) 393-4388 (fax)  
(575) 390-7067 (cell)  
[dgboyer@sesi-nm.com](mailto:dgboyer@sesi-nm.com)





**From:** [Camille J Bryant](#)  
**To:** [Aaron Pachlhofer](#)  
**Subject:** DTW  
**Date:** Wednesday, November 07, 2018 4:22:50 PM

---

Aaron,

As per our discussion this morning regarding depth to groundwater in Section 2, T15S, R37E in Lea County, New Mexico, the depth to water in this area should approximately 70 to 75 feet bgs. This depth is based on monitor wells in the area.

Thanks,

*Camille J. Bryant*  
*Remediation Supervisor*  
*Plains All American*  
*505 N. Big Spring, Suite 600*  
*Midland, Texas 79701*  
*Office: 432.221.7924*  
*Cell: 575.441.1099*

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# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)						(quarters are smallest to largest)		(NAD83 UTM in meters)			
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y				
L	01283	3	2	11	15S	37E	671012	3656515*					
Driller License: 33		Driller Company:		TATUM CLAUDE E.									
Driller Name: CLAUDE TATUM													
Drill Start Date: 10/20/1951		Drill Finish Date:		10/23/1951		Plug Date:							
Log File Date: 02/18/1952		PCW Rev Date:		02/02/1953		Source:		Shallow					
Pump Type:		Pipe Discharge Size:				Estimated Yield:							
Casing Size: 8.00		Depth Well:		120 feet		Depth Water:		40 feet					
Water Bearing Stratifications:		Top	Bottom	Description									
		40	120	Sandstone/Gravel/Conglomerate									

\*UTM location was derived from PLSS - see Help

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# New Mexico Office of the State Engineer

## Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tw	Rng	X	Y
	L 01323	4	2	11	15S	37E		671415	3656520*

Driller License: 35

Driller Company: AQUA DRILLING CO.

Driller Name: TATUM, ROY L.

Drill Start Date: 11/28/1951

Drill Finish Date: 11/30/1951

Plug Date:

Log File Date: 01/28/1952

PCW Rcv Date: 02/20/1957

Source: Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size: 7.00

Depth Well: 120 feet

Depth Water: 32 feet

Water Bearing Stratifications:

Top Bottom Description

	32	33	Sandstone/Gravel/Conglomerate
	65	67	Sandstone/Gravel/Conglomerate
	88	90	Sandstone/Gravel/Conglomerate
	110	120	Sandstone/Gravel/Conglomerate

\*UTM location was derived from PLSS - see Help

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# New Mexico Office of the State Engineer

## Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tw	Rng	X	Y
L	01324	1	2	11	15S	37E	671004	3656917*	

Driller License: 35

Driller Company: AQUA DRILLING CO.

Driller Name: TATUM, ROY L.

Drill Start Date: 12/26/1951

Drill Finish Date: 12/27/1951

Plug Date:

Log File Date: 01/28/1952

PCW Rcv Date: 08/20/1953

Source: Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size: 7.00

Depth Well: 120 feet

Depth Water: 32 feet

Water Bearing Stratifications:

Top Bottom Description

32	33	Sandstone/Gravel/Conglomerate
65	67	Sandstone/Gravel/Conglomerate
88	90	Sandstone/Gravel/Conglomerate
110	120	Sandstone/Gravel/Conglomerate

\*UTM location was derived from PLSS - see Help

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1/5/22 8:25 AM

POINT OF DIVERSION SUMMARY



# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)				(NAD83 UTM in meters)	
		(quarters are smallest to largest)				X	Y
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tw	Rng
L	07610	3	2	11	15S	37E	671012 3656515*
Driller License: 421		Driller Company: GLENN'S WATER WELL SERVICE					
Driller Name: GLENN, CLARK A."CORKY" (LD)							
Drill Start Date: 02/12/1977		Drill Finish Date: 02/12/1977		Plug Date:			
Log File Date: 10/17/1977		PCW Rev Date:		Source: Shallow			
Pump Type:		Pipe Discharge Size:		Estimated Yield:			
Casing Size:		Depth Well: 100 feet		Depth Water:			

\*UTM location was derived from PLSS - see Help

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POINT OF DIVERSION SUMMARY





# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)							
		(quarters are smallest to largest)				(NAD83 UTM in meters)			
<b>Well Tag</b>	<b>POD Number</b>	<b>Q64</b>	<b>Q16</b>	<b>Q4</b>	<b>Sec</b>	<b>Tws</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>
NA	L 13629 POD7	2	1	2	11	15S	37E	671073	3657109

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**Driller License:** 1456      **Driller Company:** WHITE DRILLING COMPANY

**Driller Name:** WHITE, JOHNNOWN.GENER

**Drill Start Date:** 04/14/2020      **Drill Finish Date:** 04/15/2020      **Plug Date:**

**Log File Date:** 05/21/2020      **PCW Rev Date:**      **Source:** Shallow

**Pump Type:**      **Pipe Discharge Size:**      **Estimated Yield:**

**Casing Size:** 2.00      **Depth Well:** 90 feet      **Depth Water:** 73 feet

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<b>Water Bearing Stratifications:</b>	<b>Top</b>	<b>Bottom</b>	<b>Description</b>
	35	90	Sandstone/Gravel/Conglomerate

---

<b>Casing Perforations:</b>	<b>Top</b>	<b>Bottom</b>
	60	90

---

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2/4/22 7:45 AM

POINT OF DIVERSION SUMMARY



# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)							
		(quarters are smallest to largest)				(NAD83 UTM in meters)			
<b>Well Tag</b>	<b>POD Number</b>	<b>Q64</b>	<b>Q16</b>	<b>Q4</b>	<b>Sec</b>	<b>Tw</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>
NA	L 13629 POD8	2	1	2	11	15S	37E	671100	3656952
<hr/>									
<b>Driller License:</b> 1456		<b>Driller Company:</b> WHITE DRILLING COMPANY							
<b>Driller Name:</b> WHITE, JOHNNOWN.GENER									
<b>Drill Start Date:</b> 04/13/2020		<b>Drill Finish Date:</b> 04/16/2020		<b>Plug Date:</b>					
<b>Log File Date:</b> 05/21/2020		<b>PCW Rev Date:</b>		<b>Source:</b> Shallow					
<b>Pump Type:</b>		<b>Pipe Discharge Size:</b>		<b>Estimated Yield:</b>					
<b>Casing Size:</b> 2.00		<b>Depth Well:</b> 90 feet		<b>Depth Water:</b> 69 feet					
<hr/>									
<b>Water Bearing Stratifications:</b>		<b>Top</b>	<b>Bottom</b>	<b>Description</b>					
		43	90	Sandstone/Gravel/Conglomerate					
<hr/>									
<b>Casing Perforations:</b>		<b>Top</b>	<b>Bottom</b>						
		60	90						
<hr/>									

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POINT OF DIVERSION SUMMARY



# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)							
		(quarters are smallest to largest)				(NAD83 UTM in meters)			
<b>Well Tag</b>	<b>POD Number</b>	<b>Q64</b>	<b>Q16</b>	<b>Q4</b>	<b>Sec</b>	<b>Tw</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>
NA	L 13629 POD10	2	1	2	11	15S	37E	671037	3657002
<hr/>									
<b>Driller License:</b> 1456		<b>Driller Company:</b> WHITE DRILLING COMPANY							
<b>Driller Name:</b> WHITE, JOHNNOWN.GENER									
<b>Drill Start Date:</b> 04/13/2020		<b>Drill Finish Date:</b> 04/15/2020		<b>Plug Date:</b>					
<b>Log File Date:</b> 05/21/2020		<b>PCW Rev Date:</b>		<b>Source:</b> Shallow					
<b>Pump Type:</b>		<b>Pipe Discharge Size:</b>		<b>Estimated Yield:</b>					
<b>Casing Size:</b> 2.00		<b>Depth Well:</b> 90 feet		<b>Depth Water:</b> 70 feet					
<hr/>									
<b>Water Bearing Stratifications:</b>		<b>Top</b>	<b>Bottom</b>	<b>Description</b>					
		44	90	Sandstone/Gravel/Conglomerate					
<hr/>									
<b>Casing Perforations:</b>		<b>Top</b>	<b>Bottom</b>						
		60	90						
<hr/>									

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# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)				(NAD83 UTM in meters)				
		(quarters are smallest to largest)								
Well Tag	POD Number		Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	L	13629	POD11	2	1	2	11	15S	37E	671184 3657035 
Driller License:		1456		Driller Company:			WHITE DRILLING COMPANY			
Driller Name:		WHITE, JOHN								
Drill Start Date:		04/13/2020		Drill Finish Date:			04/16/2020		Plug Date:	
Log File Date:		05/21/2020		PCW Rev Date:					Source: Shallow	
Pump Type:				Pipe Discharge Size:					Estimated Yield:	
Casing Size:		2.00		Depth Well:			90 feet		Depth Water: 71 feet	
		Water Bearing Stratifications:			Top	Bottom	Description			
					32	90	Sandstone/Gravel/Conglomerate			
		Casing Perforations:			Top	Bottom				
					60	90				

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POINT OF DIVERSION SUMMARY



# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)							
		(quarters are smallest to largest)		(NAD83 UTM in meters)					
<b>Well Tag</b>	<b>POD Number</b>	<b>Q64</b>	<b>Q16</b>	<b>Q4</b>	<b>Sec</b>	<b>Tw</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>
NA	L 13629 POD12	2	1	2	11	15S	37E	671138	3657111 
<hr/>									
<b>Driller License:</b>	1456	<b>Driller Company:</b>		WHITE DRILLING COMPANY					
<b>Driller Name:</b>	WHITE, JOHNNOWN.GENER								
<b>Drill Start Date:</b>	04/14/2020	<b>Drill Finish Date:</b>		04/16/2020		<b>Plug Date:</b>			
<b>Log File Date:</b>	05/21/2020	<b>PCW Rev Date:</b>				<b>Source:</b> Shallow			
<b>Pump Type:</b>		<b>Pipe Discharge Size:</b>				<b>Estimated Yield:</b>			
<b>Casing Size:</b>	2.00	<b>Depth Well:</b>		90 feet		<b>Depth Water:</b> 72 feet			
<hr/>									
<b>Water Bearing Stratifications:</b>		<b>Top</b>	<b>Bottom</b>	<b>Description</b>					
		33	90	Sandstone/Gravel/Conglomerate					
<hr/>									
<b>Casing Perforations:</b>		<b>Top</b>	<b>Bottom</b>						
		60	90						
<hr/>									

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POINT OF DIVERSION SUMMARY



# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tw	Rng	X	Y
NA	L 13629 POD13	2	1	2	11	15S	37E	671093	3657074 
Driller License:		1456		Driller Company:		WHITE DRILLING COMPANY			
Driller Name:		WHITE, JOHNNOWN.GENER							
Drill Start Date:		03/10/2020		Drill Finish Date:		04/16/2020		Plug Date:	
Log File Date:		04/28/2020		PCW Rcv Date:				Source: Shallow	
Pump Type:				Pipe Discharge Size:				Estimated Yield:	
Casing Size:		4.00		Depth Well:		90 feet		Depth Water: 70 feet	

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POINT OF DIVERSION SUMMARY





# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)			
		(quarters are smallest to largest)		(NAD83 UTM in meters)	
<b>Well Tag</b>	<b>POD Number</b>	<b>Q64</b>	<b>Q16</b>	<b>Q4</b>	<b>Sec Tws Rng X Y</b>
NA	L 13629 POD14	2	1	2 11	15S 37E 671112 3657085
<hr/>					
<b>Driller License:</b>	1456	<b>Driller Company:</b>	WHITE DRILLING COMPANY		
<b>Driller Name:</b>	WHITE, JOHNNOWN.GENER				
<b>Drill Start Date:</b>	03/10/2020	<b>Drill Finish Date:</b>	04/16/2020	<b>Plug Date:</b>	
<b>Log File Date:</b>	04/28/2020	<b>PCW Rev Date:</b>		<b>Source:</b>	Shallow
<b>Pump Type:</b>		<b>Pipe Discharge Size:</b>		<b>Estimated Yield:</b>	
<b>Casing Size:</b>	4.00	<b>Depth Well:</b>	90 feet	<b>Depth Water:</b>	70 feet
<hr/>					
<b>Water Bearing Stratifications:</b>		<b>Top</b>	<b>Bottom</b>	<b>Description</b>	
		36	90	Sandstone/Gravel/Conglomerate	
<hr/>					
<b>Casing Perforations:</b>		<b>Top</b>	<b>Bottom</b>		
		60	90		
<hr/>					

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POINT OF DIVERSION SUMMARY



# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)							
		(quarters are smallest to largest)		(NAD83 UTM in meters)					
<b>Well Tag</b>	<b>POD Number</b>	<b>Q64</b>	<b>Q16</b>	<b>Q4</b>	<b>Sec</b>	<b>Tw</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>
NA	L 13629 POD16	2	1	2	11	15S	37E	671094	3657050
<hr/>									
<b>Driller License:</b> 1456		<b>Driller Company:</b> WHITE DRILLING COMPANY							
<b>Driller Name:</b> WHITE, JOHNNOWN.GENER									
<b>Drill Start Date:</b> 03/10/2020		<b>Drill Finish Date:</b> 04/16/2020		<b>Plug Date:</b>					
<b>Log File Date:</b> 04/28/2020		<b>PCW Rev Date:</b>		<b>Source:</b> Shallow					
<b>Pump Type:</b>		<b>Pipe Discharge Size:</b>		<b>Estimated Yield:</b>					
<b>Casing Size:</b> 4.00		<b>Depth Well:</b> 90 feet		<b>Depth Water:</b> 70 feet					
<hr/>									
<b>Water Bearing Stratifications:</b>		<b>Top</b>	<b>Bottom</b>	<b>Description</b>					
		35	90	Sandstone/Gravel/Conglomerate					
<hr/>									
<b>Casing Perforations:</b>		<b>Top</b>	<b>Bottom</b>						
		60	90						
<hr/>									

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POINT OF DIVERSION SUMMARY



# New Mexico Office of the State Engineer

## Point of Diversion Summary

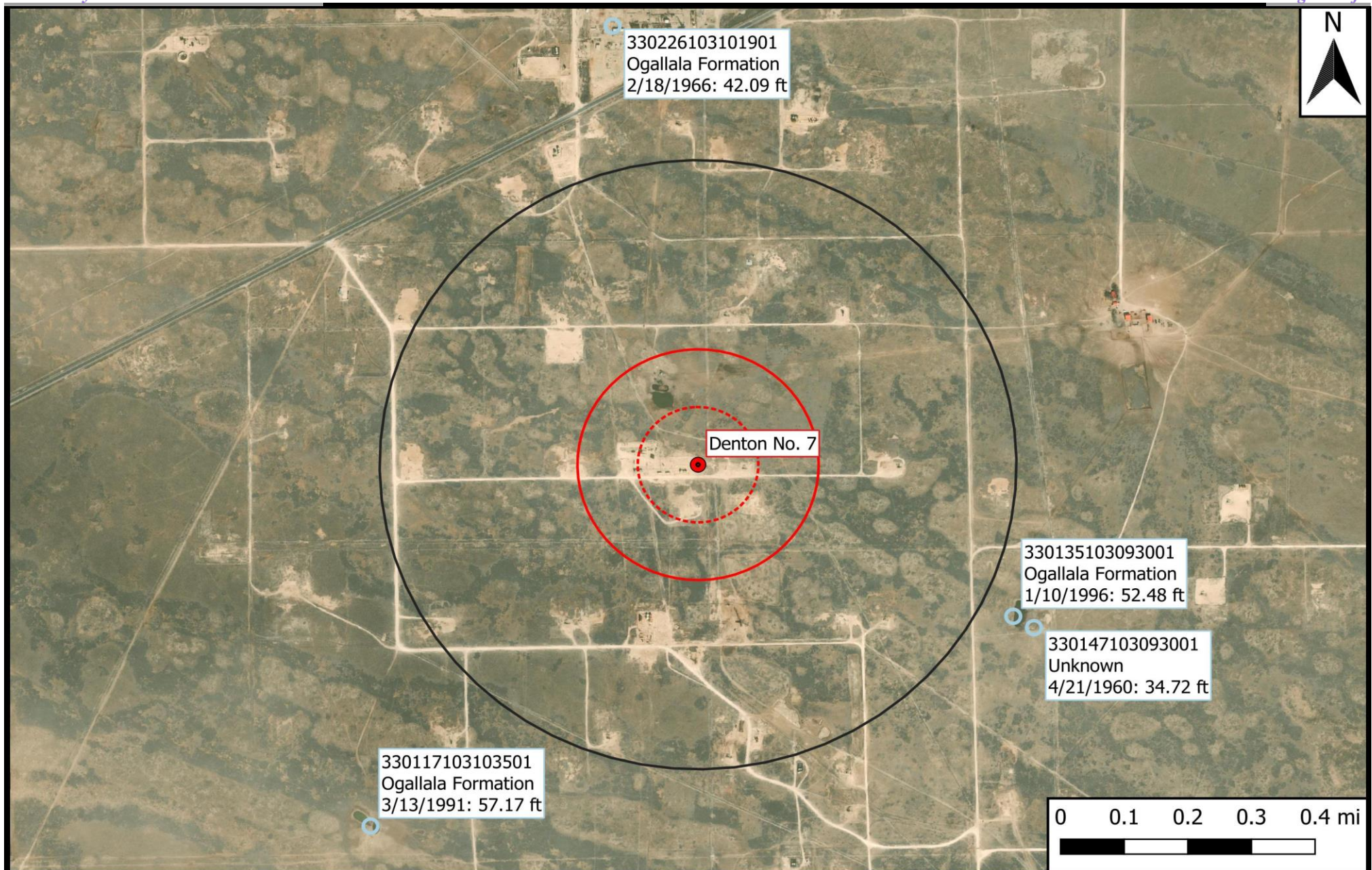
		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tw	Rng	X	Y
NA	L 13692 POD9	2	1	2	11	15S	37E	671040	3657045 
Driller License:	1456	Driller Company:			WHITE DRILLING COMPANY				
Driller Name:	WHITE, JOHNNOWN.GENER								
Drill Start Date:	04/14/2020	Drill Finish Date:			04/15/2020		Plug Date:		
Log File Date:	05/21/2020	PCW Rcv Date:						Source:	Shallow
Pump Type:		Pipe Discharge Size:						Estimated Yield:	
Casing Size:	2.00	Depth Well:			90 feet		Depth Water:		70 feet
Water Bearing Stratifications:					Top	Bottom	Description		
					25	90	Sandstone/Gravel/Conglomerate		
Casing Perforations:					Top	Bottom			
					60	90			

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

1/25/22 10:08 AM

POINT OF DIVERSION SUMMARY





## Legend

- Site Location
- Well - USGS
- 500 Ft Radius
- 1000 Ft Radius
- 0.5 Mi Radius

## Figure 5B

USGS Well Proximity Map  
Fasken Oil and Ranch, Ltd.  
Denton No. 7  
GPS: 33.033834, -103.169512  
Lea County



Drafted: mag

Checked: jwl

Date: 2/4/22



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[Contact USGS](#)  
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## National Water Information System: Web Interface

USGS Water Resources

Data Category:

Groundwater

Geographic Area:

United States

GO

[Click for News Bulletins](#)

Groundwater levels for the Nation



Important: [Next Generation Monitoring Location Page](#)

## Search Results -- 1 sites found

Agency code = usgs

site\_no list =

- 330117103103501

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

## USGS 330117103103501 15S.37E.11.333324

Available data for this site

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code 12080003

Latitude 33°01'31", Longitude 103°10'41" NAD27

Land-surface elevation 3,797.10 feet above NGVD29

The depth of the well is 80 feet below land surface.

This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.

This well is completed in the Ogallala Formation (121OGLL) local aquifer.

### Output formats

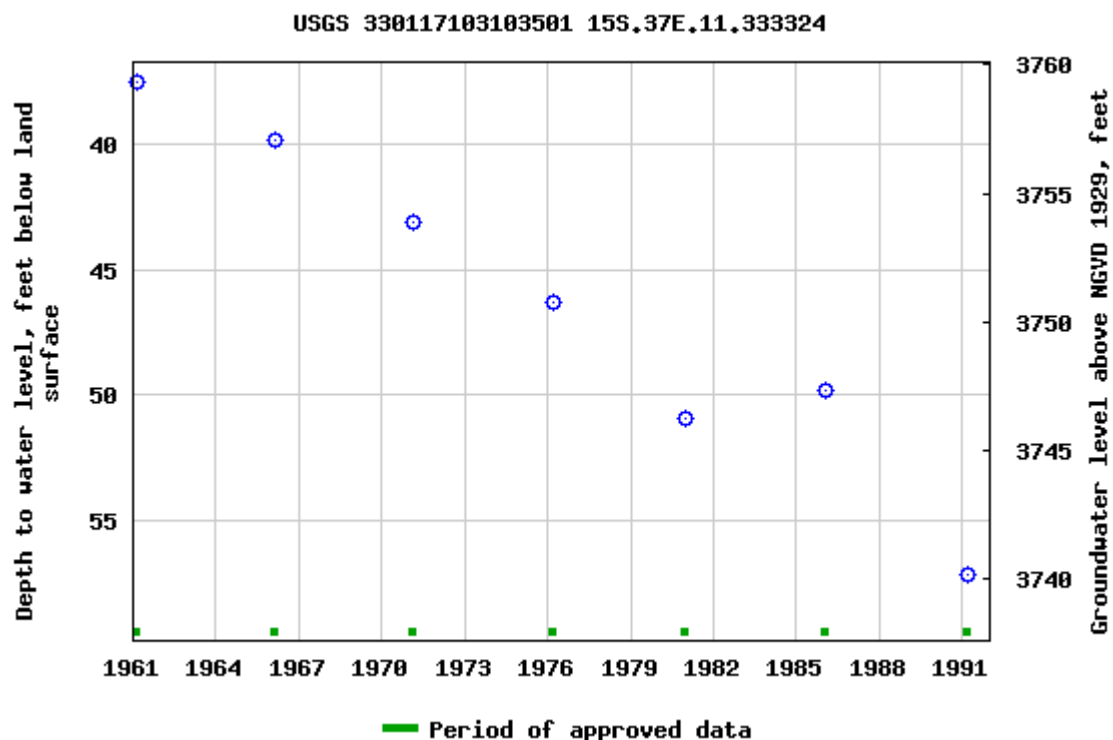
[Table of data](#)

[Tab-separated data](#)

[Graph of data](#)

[Reselect period](#)





Breaks in the plot represent a gap of at least one year between field measurements.

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**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: 2022-01-05 10:03:39 EST

0.6 0.53 nadww01





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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 =**

- 330135103093001

**Minimum number of levels = 1**

[Save file of selected sites](#) to local disk for future upload

### USGS 330135103093001 15S.37E.12.313221

Available data for this site

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code 12080003

Latitude 33°01'48", Longitude 103°09'38" NAD27

Land-surface elevation 3,785.80 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 Ogallala Formation (121OGLL) local aquifer.

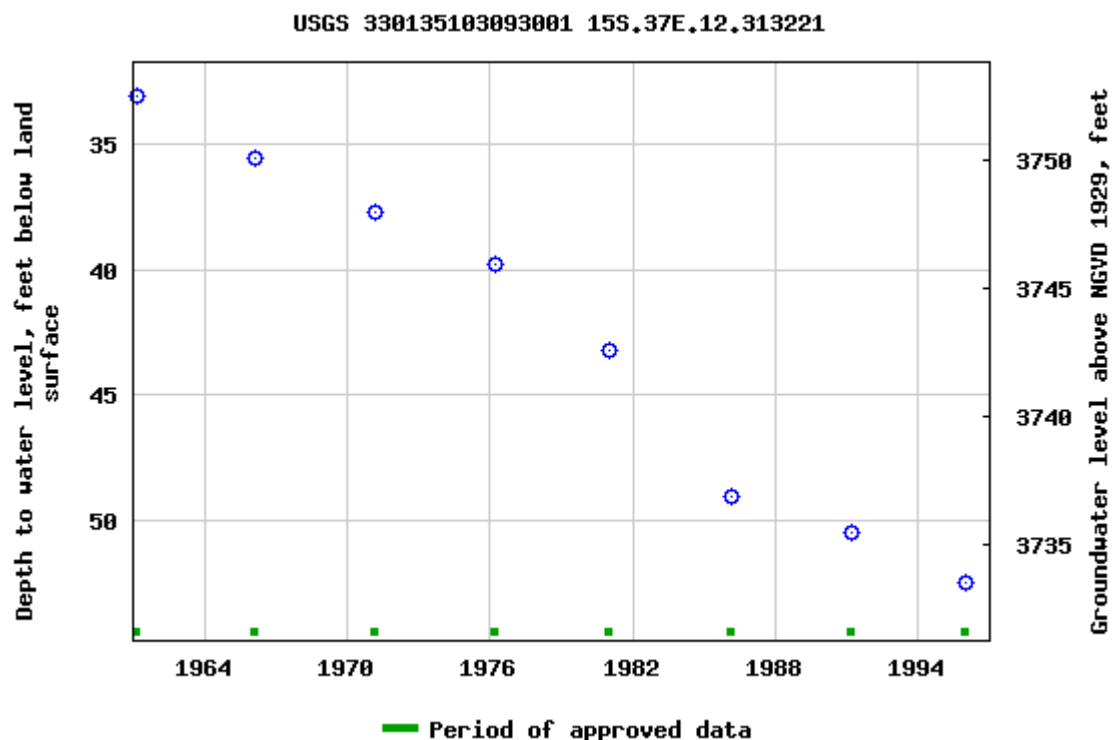
#### Output formats

[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.  
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**Title: Groundwater for USA: Water Levels**

**URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>**

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0.58 0.51 nadww01





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## 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 =

- 330147103093001

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

## USGS 330147103093001 15S.37E.12.311

Available data for this site

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code 12080003

Latitude 33°01'47", Longitude 103°09'36" NAD27

Land-surface elevation 3,786 feet above NGVD29

This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.

### Output formats

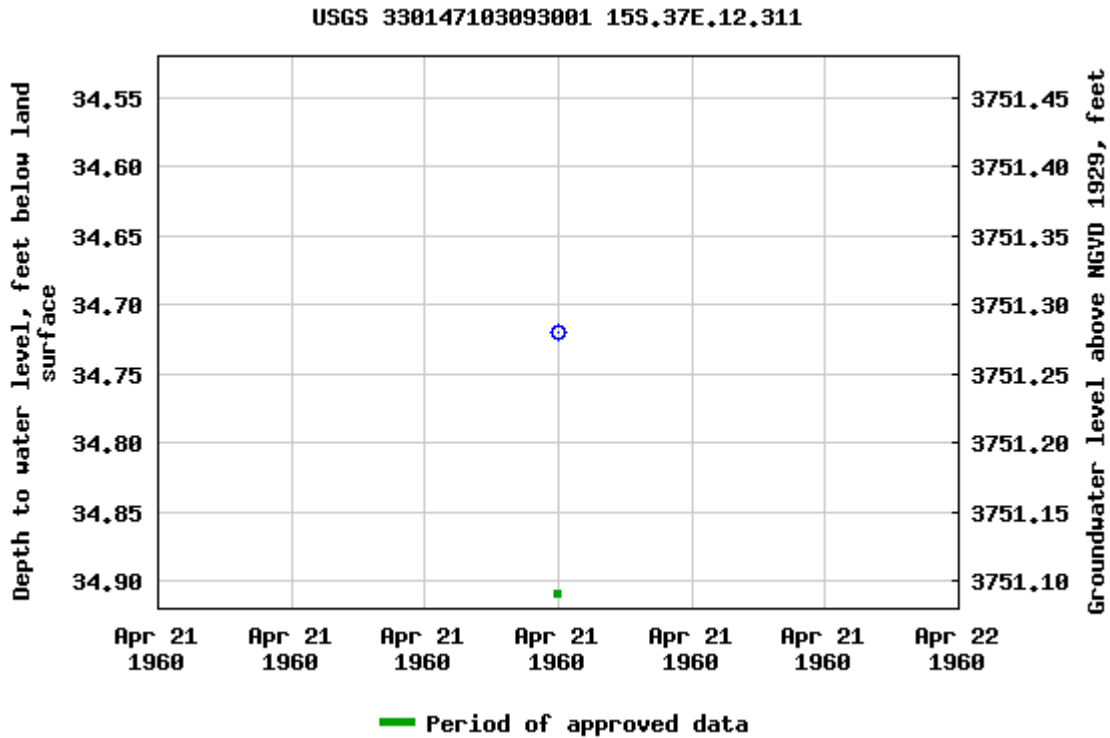
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[Tab-separated data](#)

[Graph of data](#)

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Breaks in the plot represent a gap of at least one year between field measurements.

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**Title: Groundwater for USA: Water Levels**

**URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>**



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0.65 0.54 nadww01



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USGS Water Resources

Data Category:

Groundwater

Geographic Area:

United States

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Groundwater levels for the Nation

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### Search Results -- 1 sites found

Agency code = usgs

site\_no list =

- 330226103101901

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

### USGS 330226103101901 15S.37E.02.324214

Available data for this site

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code 12080003

Latitude 33°02'39", Longitude 103°10'16" NAD27

Land-surface elevation 3,799.10 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 Ogallala Formation (121OGLL) local aquifer.

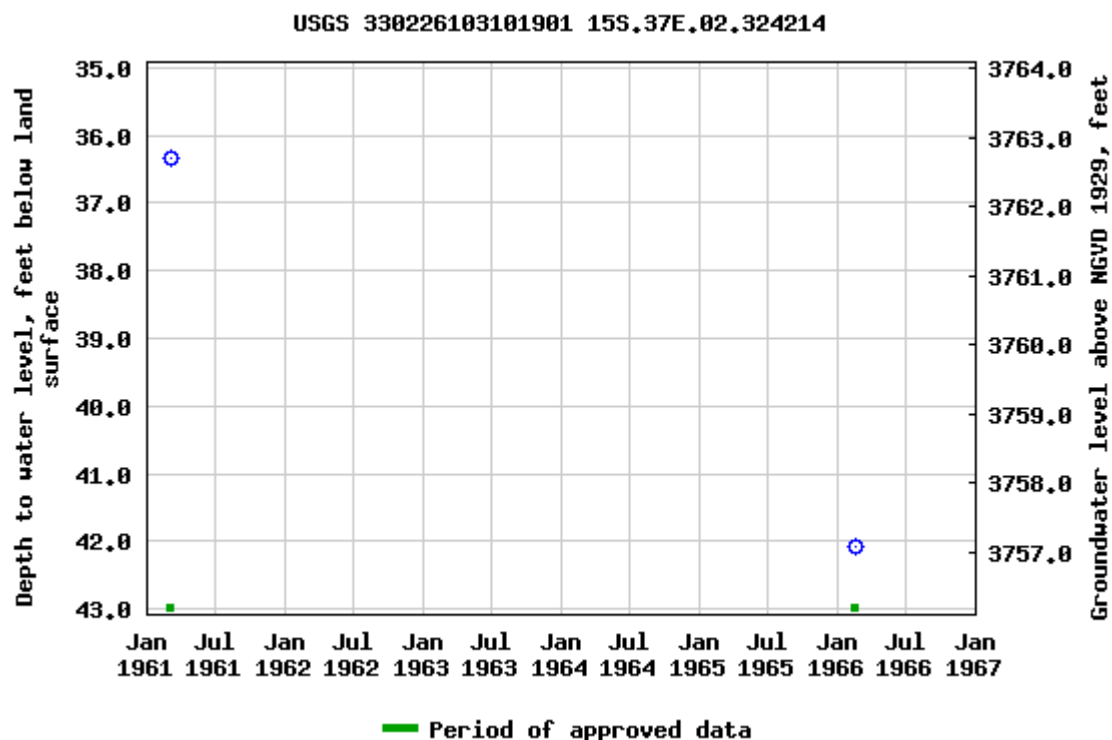
#### Output formats

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**Title: Groundwater for USA: Water Levels**

**URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>**



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Page Last Modified: 2022-01-05 10:03:41 EST

0.59 0.54 nadww01

## **Appendix B**

### **Field Data and Soil Profile Logs**



## Initial Release Assessment Form

Project: Denton No. 7

Project Number: \_\_\_\_\_

15435

Latitude: \_\_\_\_\_

33.033834

Clean Up Level:

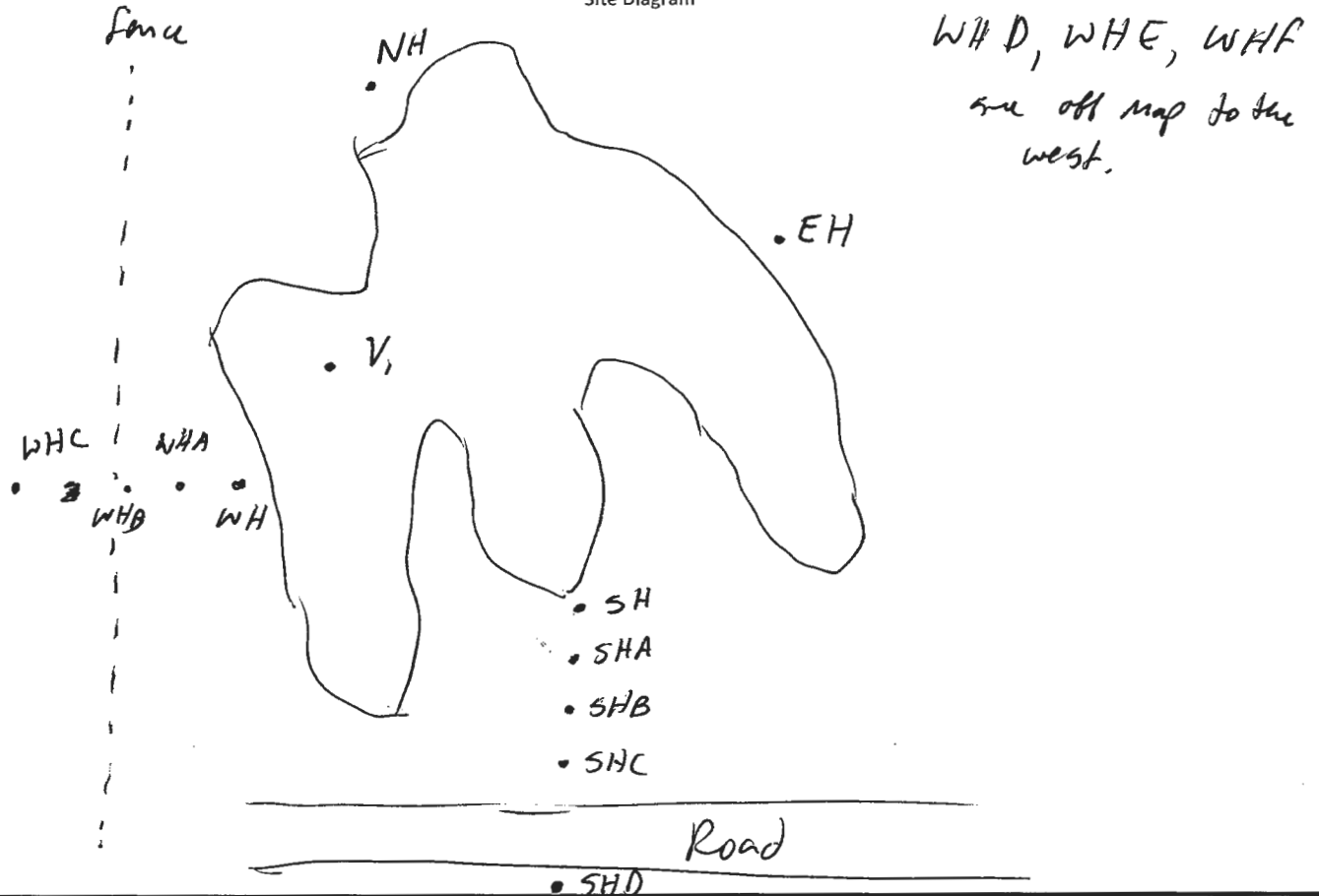
Date: 1/12/22

600 mg/kg Cl-, 100 mg/kg TPH

Longitude: \_\_\_\_\_

-103.169512

Site Diagram



## Notes:

Pad contamination appears to be above 600 ppm Cl-.  
 Remediation standard delineation is achieved off-pad.

~Length: 120' ~Width: 100' ~Area: 4980 sq ft. ~Depth: 1'

3-4 Representative Pictures of the Affected Area including sample locations?

Yes No



Necessary Samples Field Screened and on Ice?



Sample and Field Screen Data Entered on Sample Log?



Was horizontal and vertical delineation achieved?







## Sample Log

Date:

1/12/22

Project: Denton No. 7

Project Number:

15435

Latitude:

33.033834

Longitude:

-103.169512

Sample ID	PID/Odor	Chloride Conc.	GPS
V1 @ 1'	1/63	5.6 1104	
V1 @ 2'	?	5.0 888	
V1 @ 3'	?	3.8 548	new bottle
NH @ 0'	—	3.0 288 384	
NH @ 1'	—	2.8 344	
EH @ 0'	—	1.8 172	
EH @ 1'	—	2.8 344	
WH @ 0'	1/63	3.6 516	
WH @ 1'	1/63	7.6 2572	
SH @ 0'	—	4.0 620	
SH @ 1'	—	3.4 468	
SHA @ 0'	—	5.2 996	
SAA @ 1'	—	5.0 924	
SHB @ 0'	—	4.4 732	
SHB @ 1'	—	4.8 856	
SHC @ 0'	—	3.4 468	
SHC @ 1'	—	4.4 732	
WPA @ 0'	Y	8.0 22572	
WPA @ 1'	Y	7.6 2376	
SHD @ 0'	—	2.4 268	
SHD @ 1'	—	3.0 384	
WHB @ 0'	2.4	8.0 22572	
WHB @ 1'	2.4	7.2 2044	
WHC @ 0'	—	7.0 1900	
WHC @ 1'	—	6.8 1768	
WHD @ 0'	—	6.4 1532	
WHD @ 1'	2.4	7.4 2204	
WHE @ 0'	—	7.0 2572	
WHE @ 1'	—	7.0 2572	
WIF @ 0'	—	2.0 204	
WIF @ 6"	—	2.2 236	

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



## Soil Profile

Date:

1/12/22

Project: Denton No. 7

Project Number:

15435

Latitude:

33.033834

Longitude:

-103.169512

Depth (ft. bgs)

Description

1	Caliche Pad
2	Brown/Black soil
3	
4	
5	
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## **Appendix C**

### **Laboratory Analytical Reports**



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

---

January 18, 2022

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: DENTON #7

Enclosed are the results of analyses for samples received by the laboratory on 01/13/22 14:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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: 01/13/2022  
 Reported: 01/18/2022  
 Project Name: DENTON #7  
 Project Number: 15435  
 Project Location: FASKEN O&R - LEA CO NM

Sampling Date: 01/12/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: V 1 @ 1' (H220150-01)**

BTX 8021B		mg/kg		Analyzed By: MS/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/17/2022	ND	2.08	104	2.00	0.863	
Toluene*	<0.050	0.050	01/17/2022	ND	2.03	101	2.00	0.599	
Ethylbenzene*	<0.050	0.050	01/17/2022	ND	2.02	101	2.00	0.462	
Total Xylenes*	<0.150	0.150	01/17/2022	ND	6.10	102	6.00	0.327	
Total BTX	<0.300	0.300	01/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	736	16.0	01/17/2022	ND	416	104	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	01/17/2022	ND	210	105	200	3.08	
DRO >C10-C28*	270	10.0	01/17/2022	ND	191	95.3	200	2.11	
EXT DRO >C28-C36	19.2	10.0	01/17/2022	ND					

Surrogate: 1-Chlorooctane 98.9 % 66.9-136

Surrogate: 1-Chlorooctadecane 108 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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: 01/13/2022  
 Reported: 01/18/2022  
 Project Name: DENTON #7  
 Project Number: 15435  
 Project Location: FASKEN O&R - LEA CO NM

Sampling Date: 01/12/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: V 1 @ 2' (H220150-02)**

BTX 8021B		mg/kg		Analyzed By: MS/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/17/2022	ND	2.08	104	2.00	0.863	
Toluene*	<0.050	0.050	01/17/2022	ND	2.03	101	2.00	0.599	
Ethylbenzene*	<0.050	0.050	01/17/2022	ND	2.02	101	2.00	0.462	
Total Xylenes*	<0.150	0.150	01/17/2022	ND	6.10	102	6.00	0.327	
Total BTX	<0.300	0.300	01/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	01/17/2022	ND	416	104	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	01/17/2022	ND	210	105	200	3.08	
DRO >C10-C28*	<10.0	10.0	01/17/2022	ND	191	95.3	200	2.11	
EXT DRO >C28-C36	<10.0	10.0	01/17/2022	ND					

Surrogate: 1-Chlorooctane 96.0 % 66.9-136

Surrogate: 1-Chlorooctadecane 95.3 % 59.5-142

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 01/13/2022  
 Reported: 01/18/2022  
 Project Name: DENTON #7  
 Project Number: 15435  
 Project Location: FASKEN O&R - LEA CO NM

Sampling Date: 01/12/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: NH @ 0' (H220150-03)**

BTEX 8021B		mg/kg		Analyzed By: MS/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/17/2022	ND	2.08	104	2.00	0.863	
Toluene*	0.055	0.050	01/17/2022	ND	2.03	101	2.00	0.599	
Ethylbenzene*	<0.050	0.050	01/17/2022	ND	2.02	101	2.00	0.462	
Total Xylenes*	0.218	0.150	01/17/2022	ND	6.10	102	6.00	0.327	
Total BTEX	<0.300	0.300	01/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	01/17/2022	ND	416	104	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	01/18/2022	ND	210	105	200	3.08	
DRO >C10-C28*	197	10.0	01/18/2022	ND	191	95.3	200	2.11	
EXT DRO >C28-C36	25.4	10.0	01/18/2022	ND					

Surrogate: 1-Chlorooctane 92.9 % 66.9-136

Surrogate: 1-Chlorooctadecane 108 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 01/13/2022  
 Reported: 01/18/2022  
 Project Name: DENTON #7  
 Project Number: 15435  
 Project Location: FASKEN O&R - LEA CO NM

Sampling Date: 01/12/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: NH @ 1' (H220150-04)**

BTX 8021B		mg/kg		Analyzed By: MS/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/17/2022	ND	2.08	104	2.00	0.863	
Toluene*	<0.050	0.050	01/17/2022	ND	2.03	101	2.00	0.599	
Ethylbenzene*	<0.050	0.050	01/17/2022	ND	2.02	101	2.00	0.462	
Total Xylenes*	<0.150	0.150	01/17/2022	ND	6.10	102	6.00	0.327	
Total BTX	<0.300	0.300	01/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	528	16.0	01/17/2022	ND	416	104	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	01/17/2022	ND	210	105	200	3.08	
DRO >C10-C28*	<10.0	10.0	01/17/2022	ND	191	95.3	200	2.11	
EXT DRO >C28-C36	<10.0	10.0	01/17/2022	ND					

Surrogate: 1-Chlorooctane 84.8 % 66.9-136

Surrogate: 1-Chlorooctadecane 82.9 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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: 01/13/2022  
 Reported: 01/18/2022  
 Project Name: DENTON #7  
 Project Number: 15435  
 Project Location: FASKEN O&R - LEA CO NM

Sampling Date: 01/12/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: EH @ 0' (H220150-05)**

BTX 8021B		mg/kg		Analyzed By: MS/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/17/2022	ND	2.08	104	2.00	0.863	
Toluene*	<0.050	0.050	01/17/2022	ND	2.03	101	2.00	0.599	
Ethylbenzene*	<0.050	0.050	01/17/2022	ND	2.02	101	2.00	0.462	
Total Xylenes*	<0.150	0.150	01/17/2022	ND	6.10	102	6.00	0.327	
Total BTX	<0.300	0.300	01/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	01/17/2022	ND	416	104	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	01/17/2022	ND	210	105	200	3.08	
DRO >C10-C28*	<10.0	10.0	01/17/2022	ND	191	95.3	200	2.11	
EXT DRO >C28-C36	<10.0	10.0	01/17/2022	ND					

Surrogate: 1-Chlorooctane 86.4 % 66.9-136

Surrogate: 1-Chlorooctadecane 85.6 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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: 01/13/2022  
 Reported: 01/18/2022  
 Project Name: DENTON #7  
 Project Number: 15435  
 Project Location: FASKEN O&R - LEA CO NM

Sampling Date: 01/12/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: EH @ 1' (H220150-06)**

BTX 8021B		mg/kg		Analyzed By: MS/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/17/2022	ND	2.08	104	2.00	0.863		
Toluene*	<0.050	0.050	01/17/2022	ND	2.03	101	2.00	0.599		
Ethylbenzene*	<0.050	0.050	01/17/2022	ND	2.02	101	2.00	0.462		
Total Xylenes*	<0.150	0.150	01/17/2022	ND	6.10	102	6.00	0.327		
Total BTX	<0.300	0.300	01/17/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	01/17/2022	ND	416	104	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	01/17/2022	ND	210	105	200	3.08	
DRO >C10-C28*	<10.0	10.0	01/17/2022	ND	191	95.3	200	2.11	
EXT DRO >C28-C36	<10.0	10.0	01/17/2022	ND					

Surrogate: 1-Chlorooctane 100 % 66.9-136

Surrogate: 1-Chlorooctadecane 99.2 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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: 01/13/2022  
 Reported: 01/18/2022  
 Project Name: DENTON #7  
 Project Number: 15435  
 Project Location: FASKEN O&R - LEA CO NM

Sampling Date: 01/12/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SH D @ 0' (H220150-07)**

BTEx 8021B		mg/kg		Analyzed By: MS/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/17/2022	ND	2.08	104	2.00	0.863		
Toluene*	<0.050	0.050	01/17/2022	ND	2.03	101	2.00	0.599		
Ethylbenzene*	<0.050	0.050	01/17/2022	ND	2.02	101	2.00	0.462		
Total Xylenes*	<0.150	0.150	01/17/2022	ND	6.10	102	6.00	0.327		
Total BTEX	<0.300	0.300	01/17/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.1 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	01/17/2022	ND	416	104	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	01/17/2022	ND	210	105	200	3.08	
DRO >C10-C28*	<10.0	10.0	01/17/2022	ND	191	95.3	200	2.11	
EXT DRO >C28-C36	<10.0	10.0	01/17/2022	ND					

Surrogate: 1-Chlorooctane 96.7 % 66.9-136

Surrogate: 1-Chlorooctadecane 95.6 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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: 01/13/2022  
 Reported: 01/18/2022  
 Project Name: DENTON #7  
 Project Number: 15435  
 Project Location: FASKEN O&R - LEA CO NM

Sampling Date: 01/12/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SH D @ 1' (H220150-08)**

BTEx 8021B		mg/kg		Analyzed By: MS/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/17/2022	ND	2.08	104	2.00	0.863	
Toluene*	<0.050	0.050	01/17/2022	ND	2.03	101	2.00	0.599	
Ethylbenzene*	<0.050	0.050	01/17/2022	ND	2.02	101	2.00	0.462	
Total Xylenes*	<0.150	0.150	01/17/2022	ND	6.10	102	6.00	0.327	
Total BTEx	<0.300	0.300	01/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	01/17/2022	ND	416	104	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	01/17/2022	ND	210	105	200	3.08	
DRO >C10-C28*	<10.0	10.0	01/17/2022	ND	191	95.3	200	2.11	
EXT DRO >C28-C36	<10.0	10.0	01/17/2022	ND					

Surrogate: 1-Chlorooctane 81.8 % 66.9-136

Surrogate: 1-Chlorooctadecane 80.6 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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: 01/13/2022  
 Reported: 01/18/2022  
 Project Name: DENTON #7  
 Project Number: 15435  
 Project Location: FASKEN O&R - LEA CO NM

Sampling Date: 01/12/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WH F @ 0' (H220150-09)**

BTX 8021B		mg/kg		Analyzed By: MS/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/17/2022	ND	2.08	104	2.00	0.863	
Toluene*	<0.050	0.050	01/17/2022	ND	2.03	101	2.00	0.599	
Ethylbenzene*	<0.050	0.050	01/17/2022	ND	2.02	101	2.00	0.462	
Total Xylenes*	<0.150	0.150	01/17/2022	ND	6.10	102	6.00	0.327	
Total BTX	<0.300	0.300	01/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	01/17/2022	ND	416	104	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	01/17/2022	ND	210	105	200	3.08	
DRO >C10-C28*	<10.0	10.0	01/17/2022	ND	191	95.3	200	2.11	
EXT DRO >C28-C36	<10.0	10.0	01/17/2022	ND					

Surrogate: 1-Chlorooctane 115 % 66.9-136

Surrogate: 1-Chlorooctadecane 113 % 59.5-142

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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: 01/13/2022  
 Reported: 01/18/2022  
 Project Name: DENTON #7  
 Project Number: 15435  
 Project Location: FASKEN O&R - LEA CO NM

Sampling Date: 01/12/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: WH F @ 1' (H220150-10)**

BTX 8021B		mg/kg		Analyzed By: MS/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/17/2022	ND	2.08	104	2.00	0.863		
Toluene*	<0.050	0.050	01/17/2022	ND	2.03	101	2.00	0.599		
Ethylbenzene*	<0.050	0.050	01/17/2022	ND	2.02	101	2.00	0.462		
Total Xylenes*	<0.150	0.150	01/17/2022	ND	6.10	102	6.00	0.327		
Total BTX	<0.300	0.300	01/17/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	01/17/2022	ND	416	104	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	01/17/2022	ND	210	105	200	3.08	
DRO >C10-C28*	<10.0	10.0	01/17/2022	ND	191	95.3	200	2.11	
EXT DRO >C28-C36	<10.0	10.0	01/17/2022	ND					

Surrogate: 1-Chlorooctane 84.9 % 66.9-136

Surrogate: 1-Chlorooctadecane 83.6 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



---

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---

### 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

---

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

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

Page 1 of 1

Company Name: Etech Environmental & Safety Solutions, Inc.				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																					
Project Manager: Joel Lowry				P.O. #:				<div style="display: flex; justify-content: space-around;"> <div>Chloride</div> <div>TPH (8015M)</div> <div>BTEX (8021B)</div> </div>																					
Address: 2617 W Marland				Company: Fasken O&R																									
City: Hobbs State: NM Zip: 88240				Attn:																									
Phone #: (575) 264-9884 Fax #:				Address:																									
Project #: 15435 Project Owner: Fasken O&R				City:																									
Project Name: Denton No. 7				State: Zip:																									
Project Location: Rural Lea, NM				Phone #:																									
Sampler Name: Matthew Grieco				Fax #:																									
FOR LAB USE ONLY		Lab I.D.		Sample I.D.		(GRAB OR COMPOUND)		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER:		PRESERV.		SAMPLING		DATE		TIME	
H220150																													
1		V1 @ 1'		G 1																									
2		V1 @ 2'		G 1																									
3		NH @ 0'		G 1																									
4		NH @ 1'		G 1																									
5		EH @ 0'		G 1																									
6		EH @ 1'		G 1																									
7		SH D @ 0'		G 1																									
8		SH D @ 1'		G 1																									
9		WH F @ 0'		G 1																									
10		WH F @ 1'		G 1																									

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Relinquished By:	Date: 1-13-22	Received By:	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
	Time: 1450		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:	
	Time:		Please email results and copy of CoC to pm@etechenv.com.	
Delivered By: (Circle One)	-3.4c	Sample Condition	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:	-3.9c #13	Cool Intact	T.D.	
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No		



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

---

February 01, 2022

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: DENTON #7

Enclosed are the results of analyses for samples received by the laboratory on 01/27/22 15:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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: 01/27/2022  
 Reported: 02/01/2022  
 Project Name: DENTON #7  
 Project Number: 15435  
 Project Location: FASKEN O&R - LEA CO NM

Sampling Date: 01/27/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: NH B @ 0' (H220326-01)**

BTEx 8021B		mg / kg		Analyzed By: MS/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/28/2022	ND	2.07	103	2.00	4.05		
Toluene*	<0.050	0.050	01/28/2022	ND	1.99	99.7	2.00	4.23		
Ethylbenzene*	<0.050	0.050	01/28/2022	ND	1.96	97.9	2.00	3.73		
Total Xylenes*	<0.150	0.150	01/28/2022	ND	5.91	98.5	6.00	4.34		
Total BTEx	<0.300	0.300	01/28/2022	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	48.0	16.0	01/31/2022	ND	416	104	400	3.92	

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	01/31/2022	ND	220	110	200	8.45	
DRO >C10-C28*	<10.0	10.0	01/31/2022	ND	223	112	200	3.60	
EXT DRO >C28-C36	<10.0	10.0	01/31/2022	ND					

Surrogate: 1-Chlorooctane 75.5 % 66.9-136

Surrogate: 1-Chlorooctadecane 82.3 % 59.5-142

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\*=Accredited Analyte

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 client for 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 thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

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### Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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

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A handwritten signature in black ink, appearing to read "C. D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





## **Appendix D**

### **Photographic Log**



## Photographic Log

<b>Photo Number:</b>	
<b>Photo Direction:</b>	
<b>Photo Description:</b>	

<b>Photo Number:</b>	2
<b>Photo Direction:</b>	Southeast
<b>Photo Description:</b>	<p>Jan 27, 2022 at 11:14:02 AM +33.033951,-103.169623 ±10.00m 157° SE</p> <p>Initial release.</p>



## Photographic Log

<b>Photo Number:</b> 3	
<b>Photo Direction:</b> East	
<b>Photo Description:</b>  Initial release.	

<b>Photo Number:</b> 4	
<b>Photo Direction:</b> Southwest	
<b>Photo Description:</b>  Initial release.	

**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 82238

CONDITIONS

Operator: FASKEN OIL & RANCH LTD 6101 Holiday Hill Rd Midland, TX 79707	OGRID: 151416
	Action Number: 82238
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	Closure report due 06/21/2022.	3/21/2022